

(12)特許協力条約に基づいて公開された国際出願

(19) 世界知的所有権機関
国際事務局(43) 国際公開日
2004 年 5 月 13 日 (13.05.2004)

PCT

(10) 国際公開番号
WO 2004/039975 A1

(51) 国際特許分類: C12N 15/09, C12Q 1/68, G01N 33/50

(21) 国際出願番号: PCT/JP2003/013932

(22) 国際出願日: 2003 年 10 月 30 日 (30.10.2003)

(25) 国際出願の言語: 日本語

(26) 国際公開の言語: 日本語

(30) 優先権データ:
特願 2002-316586
2002 年 10 月 30 日 (30.10.2002) JP(71) 出願人 (米国を除く全ての指定国について): 久光製
薬株式会社 (HISAMITSU PHARMACEUTICAL CO.,
INC.) [JP/JP]; 〒841-0017 佐賀県 鳥栖市 田代大官町
408 Saga (JP). 千葉県 (CHIBA-PREFECTURE) [JP/JP];
〒260-8667 千葉県 千葉市中央区 市場町1番1号 Chiba
(JP).

(72) 発明者; および

(75) 発明者/出願人 (米国についてのみ): 中川原 章 (NAK-
AGAWARA, Akira) [JP/JP]; 〒260-0801 千葉県 千葉市中央区 仁戸名町666-2 千葉県がんセンター内 Chiba
(JP). 大平 美紀 (OHIRA, Miki) [JP/JP]; 〒260-0801 千葉
県 千葉市中央区 仁戸名町666-2 千葉県がんセンター
内 Chiba (JP).(74) 代理人: 長谷川 芳樹, 外 (HASEGAWA, Yoshiki et al.);
〒104-0061 東京都 中央区 銀座一丁目10番6号 銀座
ファーストビル 創英国際特許法律事務所 Tokyo (JP).

(81) 指定国 (国内): US.

(84) 指定国 (広域): ヨーロッパ特許 (AT, BE, BG, CH, CY,
CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC,
NL, PT, RO, SE, SI, SK, TR).添付公開書類:
— 国際調査報告書2 文字コード及び他の略語については、定期発行される
各 PCT ガゼットの巻頭に掲載されている「コードと略語
のガイダンスノート」を参照。

(54) Title: NUCLEIC ACIDS ISOLATED FROM NEUROBLASTOMA AT STAGE 4S

(54) 発明の名称: 4 s 期神経芽細胞腫から単離された核酸

(57) Abstract: Prognosis (in particular, determination of the progress stage and judgment of neuroblastoma at stage 4s) of neuroblastoma is diagnosed by using a diagnostic agent for the prognosis of neuroblastoma and a diagnostic kit comprising a nucleic acid probe, a primer or a nucleic acid microarray with the use of a nucleic acid comprising a sequence selected from among the nucleic acid sequences represented by SEQ ID NOS:1 to 174, fragments thereof and combinations of the same.

(57) 要約: 配列表の配列番号 1 ないし 174 に記載の核酸配列からなる群より選ばれる 1 つの配列からなる核酸若しくはその断片等、或いはその組み合わせを利用した核酸プローブ、プライマーまたは核酸マイクロアレイからなる、神経神経芽細胞腫の予後診断剤および診断キットを用いて、神経芽細胞腫の予後 (特に、進行度分類および 4 s 期神経芽細胞腫の判定) を診断する。

WO 2004/039975 A1

明細書

4 s 期神経芽細胞腫から単離された核酸

技術分野

【0001】 本発明は、ヒト神経芽細胞腫において発現する遺伝子に由来する核酸類に関する。さらに詳しくは、本発明は、4 s 期のヒト神経芽細胞腫において発現する遺伝子に由来する核酸類に関する。さらに、本発明は、このような核酸およびそれらの断片、あるいはそれらの組み合わせを利用した核酸プローブ、プライマーまたは核酸マイクロアレイ等からなる、4 s 期神経芽細胞腫の診断剤および診断キット、さらには上記遺伝子からの核酸配列情報に基づく癌細胞のプログラム細胞死機構の解明に関する。

背景技術

【0002】 (腫瘍形成と遺伝子)

個々の腫瘍にはそれぞれの個性があり、発癌の基本的な原理は同じであっても、その生物学的特性は必ずしも同じではない。近年、癌の分子生物学や分子遺伝学が急速に進歩し、発癌やいわゆる腫瘍細胞のバイオロジーが遺伝子レベルで説明できるようになってきた。

【0003】 (神経芽細胞腫)

神経芽細胞腫は、末梢交感神経系細胞に由来する交感神経節細胞と副腎髄質細胞から発生する小児癌である。この交感神経系細胞は、発生初期の神経堤細胞が腹側へ遊走し、いわゆる交感神経節が形成される場所で分化成熟したものである。その一部の細胞はさらに副腎部へ遊走し、先に形成されつつある副腎皮質を貫通して髄質部に達し、そこで髄質を形成する。神経堤細胞は、ほかの末梢神経細胞の起源ともなっており、後根神経節（知覚神経）、皮膚の色素細胞、甲状腺C細胞、肺細胞の一部、腸管神経節細胞などへ分化する。

【0004】 (神経芽細胞腫の予後)

神経芽細胞腫は多彩な臨床像を示すことが特徴である（中川原，「神経芽腫の発生とその分子機構」，小児内科，1998年，第30巻，p. 143）。例えば、1歳未満で発症する神経芽細胞腫は非常に予後が良く、大部分が分化や細胞死を起こして自然退縮する（予後良好型ともいう）。現在、広く実施されている生後6か月時の尿のマススクリーニングで陽性となる神経芽細胞腫の多くは、この自然退縮を起こしやすいものに属する。一方、1歳以上で発症する神経芽細胞腫は悪性度が高く、多くの場合、治療に抵抗して患児を死に至らしめる（予後不良型ともいう）。1歳以上の悪性度の高い神経芽細胞腫は、体細胞突然変異（Somatic mutation）が起こり、モノクローナルであるのに対し、自然退縮する神経芽細胞腫では生殖細胞突然変異（germ line mutation）のみの遺伝子変異でとどまっているとの仮説もある（Knudson AG et al., Regression of neuroblastoma IV-S: A genetic hypothesis N. Engl. J. Med., U.S.A. 1980, vol 302, p. 1254）。さらに、臨床的にこれらの型の間位置する中間型の神経芽細胞腫もある。

【0005】 腫瘍の進行度からこれら神経芽細胞腫を分類すると以下のようになる。

1期：副腎または交感神経節に原発し、限局している。

2期：原発巣に限局した腫瘍と局部リンパ節転移のみを有する。リンパ節転移は正中線を越えない。

3期：腫瘍が正中線を越えて対側に浸潤またはリンパ節転移をきたす。

4期：骨、骨髄、眼窩部に遠隔転移を起こす。

4s期：1歳未満に発症し、骨髄、皮膚、肝に遠隔転移する。

【0006】 予後良好型の神経芽細胞腫は、1、2、4s期の腫瘍であり、予後不良型および中間型の神経芽細胞腫は、3、4期の腫瘍である。4s期の腫瘍は、特異的であり、通常生後数ヶ月の乳児に発症し、急速に腫瘍が増殖転移するが、突然増殖が止まり、その後は自然に腫瘍が消失する。このように、自然退縮

する腫瘍と悪性増殖する腫瘍との間の違いは、発症年齢と転移部位、さらに進行度が明らかに異なる。

【0007】（神経芽細胞腫の予後を推定する遺伝子）

最近の分子生物学的研究の進展により、神経成長因子（nerve growth factor : NGF）の高親和性レセプターである Trk A の発現が分化と細胞死の制御に深くかかわっていることが明らかとなってきた（Nakagawara A., The NGF story and neuroblastoma, Med. Pediatr. Oncol., U.S.A., 1998, Vol 31, p. 113）。Trk は神経栄養因子の高親和性受容体で、膜貫通型受容体であり、Trk-A、B、C の 3 つが主なものである。

【0008】 Trk ファミリー受容体は、中枢神経および末梢神経系において、特異的な神経細胞の分化と生存維持に重要な役割を果たしている（中川原等, 「神経芽細胞腫におけるニューロトロフィン受容体の発現と予後」, 小児外科, 1997 年, 第 29 巻, p. 425-432）。腫瘍細胞の生存や分化は Trk チロシンキナーゼや Ret チロシンキナーゼからのシグナルで制御されている。なかでも、Trk A 受容体の役割は最も重要で、予後良好型の神経芽細胞腫では Trk A の発現が著しく高く、これからのシグナルが腫瘍細胞の生存・分化、または細胞死（アポトーシス）を強く制御している。一方、予後不良型の神経芽細胞腫では、Trk A の発現が著しく抑えられており、これに代わって Trk B あるいは Ret からのシグナルが生存の促進という形で腫瘍の進展を助長している。

【0009】 また、神経の癌遺伝子である N-myc の増幅が神経芽細胞腫の予後に関連していることも明らかになってきた（中川原, 「脳・神経腫瘍の多段階発癌」, Molecular Medicine, 1999 年, 第 364 巻, p. 366）。この遺伝子は神経芽細胞腫で初めてクローニングされたが、正常細胞や予後良好型の神経芽細胞腫では通常 1 倍体当たり 1 つしか存在しないのに対し、予後不良型の神経芽細胞腫においては数十倍に増幅されているのが見つかった。

【0010】 上記の遺伝子以外にも、予後良好型の神経芽細胞腫で高発現する遺伝子として、CD44、PTN、caspase等が知られており、また予後不良型の神経芽細胞腫で高発現する遺伝子としては、SVV (survivin)、MK (midkine)等が知られている。

5 【0011】 さらに、本発明者らは、予後良好型の神経芽細胞腫において、一群の新規な遺伝子が高発現していることを見出し（国際公開PCT/JPO1631号パンフレット）、また対照的に予後不良型の神経芽細胞腫において、別の一群の新規な遺伝子が高発現していることを見出した（国際公開PCT/JPO1629号パンフレット）。

10 【0012】 しかしながら、現在までに4s期神経芽細胞腫において発現する（特に、特異的に）遺伝子についてはほとんど知られていなかった。さらに、上記のように4s期神経芽細胞腫は自然退縮するので、この原因となる遺伝子の同定も急務である。

発明の開示

15 【0013】 本発明は、上記従来技術の有する課題に鑑みてなされたものであり、一般的に神経芽細胞腫の予後良不良に関する遺伝子の核酸配列を明らかにし、そのような遺伝子情報の提供および予後良不良に関する診断を可能とすることを目的とする。本発明は、特定的には神経芽細胞腫の予後を診断し、該細胞腫の進行度分類を行い、4s期神経芽細胞腫の判定を可能とすることを目的とする。

20 【0014】 本発明者らは鋭意研究した結果、ヒト神経芽細胞腫の予後を検定し、予後良好型および予後不良型の臨床組織の各々からcDNAライブラリーを作製することに成功した。これら2種類のcDNAライブラリーから各々約2400個のクローンをクローニングし、神経芽細胞腫の予後の良悪によって分類し、それぞれのサブセットで遺伝子のプロファイリングを行った。

25 【0015】 そこで本発明者らは、前記サブセット間で示差的に発現し、かつ予後良好型の臨床組織でのみ発現が増強している遺伝子群を見いだした。加えて、

本発明者は、予後不良型の臨床組織でのみ発現が増強している遺伝子群をも見いだした。かかる知見に基づき、本発明者は少なくとも予後良好型の臨床組織または、予後不良型の臨床組織でのみ発現が増強している遺伝子を検出およびクローニングするための核酸配列情報を提供することを可能とした。

5 【0016】 さらに、本発明者らは、4 s 期神経芽細胞腫の臨床組織から同様に cDNA ライブラリーを作製することに成功した。このライブラリーから約 2700 個のクローンをクローニングした。このライブラリーのサブセットと、予後良好型および予後不良型の臨床組織からのライブラリーのサブセットを解析して、これらのサブセット間で発現する約 1600 個の遺伝子のプロファイリング
10 を行った。その結果、前記サブセット間で示差的に発現する 452 個の遺伝子を同定した。これらの遺伝子をシークエンスしたところ、308 個の新規な遺伝子と、残り 144 個の既知の遺伝子とから成っていた。前記遺伝子をそれぞれのサブセット間での発現パターンに従って、分類し 7 つの群にグループ化した。

15 【0017】 かかる知見に基づき、本発明者らは、4 s 期神経芽細胞腫を特徴づける発現パターンを呈する遺伝子を検出およびクローニングするための遺伝子情報（核酸配列情報等）を提供することを可能とした。さらに該核酸配列情報に基づき、神経芽細胞腫の予後診断法（特に、進行度分類）を、4 s 期神経芽細胞腫の判定を含めて、可能とする診断剤や診断キットを提供することを可能とし、本発明を完成した。

20 【0018】 すなわち、本発明によれば、配列表の配列番号 1 ないし 174 に記載の核酸配列からなる群より選ばれる 1 つの配列からなる核酸が提供される。

 【0019】 好ましい核酸は、前記配列番号 1 ないし 174 のうち、配列番号 1 ないし 14 のいずれか一つに記載の核酸配列からなる核酸である。

25 【0020】 また、本発明によれば、上記これらの核酸に相補的な核酸も提供される。

【0021】 また、本発明によれば、上記の核酸と、またはそれに相補的な核酸とストリンジントな条件下でハイブリダイズする核酸が提供される。

【0022】 また、本発明によれば、以下の(a)或いは(b)の核酸を含む核酸プローブが提供される：

- 5 (a) 配列表の配列番号1ないし174に記載の核酸配列からなる群より選ばれる1つの配列の全長若しくは一部からなる核酸、またはそれに相補的な核酸；
(b) 配列表の配列番号1ないし174に記載の核酸配列からなる群より選ばれる1つの配列からなる核酸とストリンジントな条件下でハイブリダイズする核酸、またはそれに相補的な核酸。

10 【0023】 好ましくは、前記(a)或いは(b)の核酸がDNAである。

【0024】 また、好ましくは、前記(a)または(b)の核酸が配列番号1ないし14に記載の核酸配列からなる群より選ばれる1つの配列からなる核酸である。

【0025】 また、本発明によれば上記の核酸プローブを有効成分として含有する4s期神経芽細胞腫の診断剤が提供される。

15 【0026】 さらに、本発明によれば、以下の(a)或いは(b)のDNAを含むプライマーが提供される：

(a) 配列表の配列番号175ないし1076に記載の核酸配列からなる群より選ばれる1つの配列からなるDNA、またはそれに相補的なDNA；

20 (b) 配列表の配列番号175ないし1076に記載の核酸配列からなる群より選ばれる1つの配列からなるDNAとストリンジントな条件下でハイブリダイズするDNA、またはそれに相補的なDNA。

【0027】 好ましくは、前記(a)或いは(b)のDNAが配列番号175ないし202に記載の核酸配列、および配列番号519ないし540に記載の核酸配列からなる群より選ばれる1つの配列からなるDNA、または配列表の配列番号7
25 85ないし798に記載の核酸配列からなる群より選ばれる1つの配列からなるDNAである。

【0028】 また、本発明によれば上記のプライマーを一組、有効成分として含有する4 s期神経芽細胞腫の診断キットが提供される。

【0029】 また、本発明によれば神経芽細胞腫の臨床組織サンプルから配列表の配列番号1ないし14に記載の核酸配列からなる群より選ばれる1つの配列からなる核酸の有無を検出することを特徴とする、4 s期神経芽細胞腫の判定方法が提供される。

【0030】 加えて、本発明によれば固相支持体に、配列表の配列番号1ないし174に記載の核酸配列からなる核酸の全長若しくは一部からなる核酸を複数個組み合わせて、固定してなる核酸マイクロアレイが提供される。

【0031】 また、本発明によれば固相支持体に、配列番号175ないし202に記載の核酸配列、配列番号519ないし540に記載の核酸配列、および配列番号785ないし798に記載の核酸配列からなる核酸を複数個組み合わせ、それらを固定してなる核酸マイクロアレイが提供される。ここで、記載された配列番号を有する核酸配列からなる核酸の複数の任意の組み合わせが用いられる。

発明を実施するための最良の形態

【0032】 以下、本発明に係る神経芽細胞腫に発現する遺伝子（以下、「本発明の遺伝子」という）に由来する核酸（以下、「本発明の核酸」という）について、その用途を含めて、本発明の好適な実施の形態を参照して、詳細に説明する。

【0033】 本発明の核酸は、上述のごとく本発明の遺伝子に由来するものであり、該遺伝子を構成するか或いは該遺伝子からインビボまたはインビトロの過程によって得られる。該核酸の鎖長には特に制限はなく、本明細書では前記遺伝子の一部に対応する核酸断片を含めて「本発明の核酸」という。核酸の鎖長が短い場合、その核酸は化学的手法で合成することができる。

【0034】 本明細書で使用する「核酸」という用語は、例えばDNAまたはRNA、或いはそれらから誘導された活性なDNA若しくはRNAでありうるが

リヌクレオチドを指し、好ましくは、DNAまたはRNAを意味する。特に好ましい核酸は、本明細書中に開示されるヒトcDNA配列と同一か、またはそれに相補的な配列を有する。

【0035】 また、本発明で使用する「ストリンジेंटな条件下でハイブリダイズする」という用語は、2つの核酸(または断片)が、Sambrook, J., Expression of cloned genes in E. coli, Molecular Cloning: A laboratory manual, U.S.A., Cold Spring Harbor Laboratory Press, 1989, p.9.47-9.62, p.11.45-11.61 に記載されたハイブリダイゼーション条件下で、相互にハイブリダイズすることを意味する。

【0036】 より具体的には、前記「ストリンジेंटな条件」とは、約45℃において6.0×SSCでハイブリダイゼーションを行った後に、50℃で2.0×SSCで洗浄することを指す。ストリンジエンシーの選択のため、洗浄工程における塩濃度を、例えば低ストリンジエンシーとしての約2.0×SSC、50℃から、高ストリンジエンシーとしての約0.2×SSC、50℃まで選択することができる。さらに、洗浄工程の温度を低ストリンジエンシー条件の室温、約22℃から、高ストリンジエンシー条件の約65℃まで高くすることができる。

【0037】 また、本明細書で使用する「核酸」という用語は、単離された核酸を指し、これは組換えDNA技術により調製された場合は細胞物質、培養培地を実質的に含有せず、化学合成された場合には前駆体化学物質またはその他の化学物質を実質的に含まない、核酸またはポリペプチドを指す。

【0038】 本明細書で使用する「予後良好型」とは、ヒト神経芽細胞腫のうち、腫瘍が限局して存在するか、または退縮や良性の交感神経節細胞腫になった状態を指し、N-mycその他腫瘍マーカー(TrkA、染色体異常等)から判断して、悪性度が低いと医師によって判断されるものである。本発明の好適な実施の形態では、病期1または2、発症年齢が1歳未満、手術後5年以上再発なく生存し、臨床組織中にN-mycの増幅が認められないものを予後良好型とした

が、このような特定の例には限定されない。また、本明細書で使用する「予後不良型」とは、ヒト神経芽細胞腫のうち、腫瘍の進行が認められる状態を指し、N-myc その他腫瘍マーカーから判断して、悪性度が高いと医師によって判断されるものである。本発明の好適な実施の形態では、病期 4、発症年齢が 1 歳以上、手術後 3 年以内に死亡、臨床組織中に N-myc の増幅が認められたものを予後不良型としたが、このような特定の例には限定されない。

【0039】 なお、4 s 期神経芽細胞腫は、上記のような臨床分子生物学的分類に従えば「予後良好型」に分類されるが、本明細書中では便宜上、「予後良好型」とは区別して取り扱う。

【0040】 神経芽細胞腫は、ヒトでは 2 種類しか知られていない神経細胞そのものの腫瘍の 1 つであり、そこで発現している遺伝子を解析することは、神経細胞のバイオロジーを理解する上で非常に有用な知見をもたらすものと考えられる。すなわち、脳や末梢神経から、部位特異的な均質な組織を得ることは極めて困難で、事実上不可能である。一方、神経芽細胞腫は、末梢交感神経細胞に由来するほぼ均一な神経細胞集団（腫瘍化してはいるが）から成り、均質に発現している神経関連遺伝子が得られる可能性が高い。また、神経芽細胞腫は癌であるため、神経発生の未熟な段階で発現している重要な遺伝子が多いことも特徴として挙げられる。

【0041】 さらに、神経芽細胞腫は、予後の良好なものと予後の不良なものとの臨床的、生物学的に明瞭に区別される。予後良好型の神経芽細胞腫の癌細胞は、増殖速度が極めて遅く、ある時点から自然退縮を始めることが特徴である。これまでの知見から、この自然退縮では、神経細胞の分化およびアポトーシス（神経細胞死）が起こっており、正常神経細胞の成熟段階で起こる分化とプログラム細胞死と非常によく似た現象であることが分かってきた。従って、この腫瘍で発現している遺伝子を解析することによって、神経の分化やアポトーシスに関連した重要な遺伝子情報を入手できる可能性が極めて高い。

【0042】 上記の有用な遺伝子情報を入手できる遺伝子である本発明の遺伝子およびそれらに由来する本発明の核酸は、4 s 期神経芽細胞腫の臨床組織（以下、4 s とともに略称する）に見出されたものであるが、予後良好型の臨床組織（以下、“F (favorable)” とともに略称する）および予後不良型の臨床組織（以下、“U F (unfavorable)” とともに略称する）でのそれら遺伝子の発現を比較すると以下のよう
5 　　な特徴を有する。

【0043】 すなわち、前述のようにして得られ、少なくとも部分的にシーケンスした452個の遺伝子をそれぞれのサブセット間での発現パターンに基づいて、分類し7つの群にグループ化したところ、次のようになる。

10 　　【0044】 （グループ I）

このグループに属する遺伝子は、その発現（4 s）がUFと同程度であり、Fより低い。さらに、これら遺伝子をサブグループに分類すると、I-1、I-2およびI-3となる。各サブグループの遺伝子発現パターンについては、表1を参照。

15 　　【0045】 I-1に属する特定のクローンは、nbla20026(配列番号171), nbla20421(配列番号172), nbla22298(配列番号173), nbla22549(配列番号174) および nbla23020（以上、新規遺伝子）である。

20 　　【0046】 I-2に属する特定のクローンは、nbla20113, nbla20146(配列番号137), nbla20170(配列番号138), nbla20216(配列番号139), nbla20253, nbla20549, nbla20657(配列番号140), nbla20688(配列番号141), nbla20755(配列番号142), nbla20835, nbla20968, nbla21013(配列番号143), nbla21087, nbla21172(配列番号144), nbla21189, nbla21200(配列番号145), nbla21214, nbla21255(配列番号146), nbla21337, nbla21344, nbla21345(配列番号147), nbla21410(配列番号148), nbla21522(配列番号149), nbla21631(配列番号150),
25 　　nbla21788(配列番号151), nbla21897(配列番号152), nbla21956, nbla22116(配列番号153), nbla22223(配列番号154), nbla22228, nbla22344(配列番号155),

5 nbla22351, nbla22361, nbla22474, nbla22629, nbla22939(配列番号 156),
nbla23084(配列番号 157), nbla23103(配列番号 158), nbla23234(配列番号 159),
nbla23300(配列番号 160), nbla23369(配列番号 161), nbla23436(配列番号 162),
nbla23511(配列番号 163), nbla23664(配列番号 164), nbla23775, nbla23860(配
列番号 165), nbla23877(配列番号 166), nbla23998(配列番号 167), nbla24043(配
列番号 168), nbla24182, nbla24285, nbla24402(配列番号 169), nbla24434,
nbla24460, nbla24762, nbla24821(配列番号 170), nbla24893, nbla24973,
nbla24986 (以上、新規遺伝子)、nbla20279, nbla20687, nbla20924, nbla21168,
nbla21303, nbla21483, nbla21838, nbla21917, nbla22099, nbla22438, nbla23111,
10 nbla23208, nbla24118, nbla24279, nbla24771 および nbla24871 (以上、既知遺
伝子) である。

【0047】 I-3 に属する特定のクローンは、nbla20084(配列番号 129),
nbla21081(配列番号 130), nbla21420(配列番号 131), nbla21761, nbla22452(配
列番号 132), nbla22595(配列番号 133), nbla22676(配列番号 134), nbla22909(配
15 列番号 135), nbla23456, nbla24297, nbla24435(配列番号 136), nbla24719 (以
上、新規遺伝子)、nbla20117, nbla20238, nbla20904, nbla23293, nbla23297,
nbla23311, nbla23589, nbla23629, nbla23862, nbla24133 および nbla24761 (以
上、既知遺伝子) である。

【0048】 (グループ II)

20 このグループに属する遺伝子は、その発現 (4 s) が F と同程度であり、UF
より高い。さらに、これら遺伝子をサブグループに分類すると、II-1、II-2
および II-3 となる。各サブグループの遺伝子発現パターンについては、表 1 を
参照。

【0049】 II-1 に属する特定のクローンは、nbla20365(配列番号 117),
25 nbla20378(配列番号 118), nbla20511(配列番号 119), nbla21039(配列番号 120),
nbla21107(配列番号 121), nbla21367(配列番号 122), nbla21790(配列番号 123),

nbla21855, nbla22253 (配列番号 124), nbla22355 (配列番号 125), nbla22704, nbla22832 (配列番号 126), nbla23394, nbla23512, nbla23755 (配列番号 127), nbla24084, nbla24376, nbla24549 (配列番号 128) (以上、新規遺伝子)、nbla20624, nbla22029, nbla22424, nbla22594 および nbla22622 (以上、既知遺伝子) である。

- 5 【0050】 II-2 に属する特定のクローンは、nbla20001 (配列番号 58), nbla20083 (配列番号 59), nbla20125, nbla20182 (配列番号 60), nbla20231, nbla20248 (配列番号 61), nbla20250 (配列番号 62), nbla20268, nbla20330 (配列番号 63), nbla20395, nbla23973, nbla23983 (配列番号 64), nbla24041, nbla24082, nbla24104, nbla24111 (配列番号 65), nbla24142 (配列番号 66), nbla24157 (配列番号 67), nbla24230 (配列番号 68), nbla24239, nbla20541 (配列番号 69), nbla20555 (配列番号 70), nbla20638, nbla20645 (配列番号 71), nbla20713 (配列番号 72), nbla20765, nbla20789, nbla20792, nbla20798, nbla21024, nbla24250 (配列番号 73), nbla24254 (配列番号 74), nbla24327 (配列番号 75), nbla24363, nbla24510 (配列番号 76), nbla24554 (配列番号 77), nbla24604 (配列番号 78), nbla24622, nbla24646, nbla24672, nbla21037 (配列番号 79), nbla21077, nbla21089, nbla21130, nbla21161 (配列番号 80), nbla21170 (配列番号 81), nbla21198 (配列番号 82), nbla21266, nbla21298 (配列番号 83), nbla21379 (配列番号 84), nbla24705 (配列番号 85), nbla24709, nbla24748, nbla24831, nbla24972, nbla21385 (配列番号 86), nbla21413, nbla21416 (配列番号 87), nbla21520, nbla21599 (配列番号 88), nbla21681 (配列番号 89), nbla21878 (配列番号 90), nbla21922 (配列番号 91), nbla21936, nbla22004-2 (配列番号 92), nbla22004-1 (配列番号 93), nbla22028, nbla22085 (配列番号 94), nbla22093, nbla22119 (配列番号 95), nbla22149 (配列番号 96), nbla22161 (配列番号 97), nbla22218, nbla22252 (配列番号 98), nbla22347 (配列番号 99), nbla22352 (配列番号 100), nbla22394 (配列番号 101), nbla22423 (配列番号 102), nbla22439 (配列番号 103), nbla22451, nbla22455, nbla22464, nbla22465, nbla22487, nbla22633 (配列番号

104), nbla22669, nbla22698(配列番号 105), nbla22726, nbla22886,
nbla22896(配列番号 106), nbla23012, nbla23038, nbla23167(配列番号 107),
nbla23339(配列番号 108), nbla23352(配列番号 109), nbla23575(配列番号 110),
23592(配列番号 111), nbla23601(配列番号 112), nbla23630(配列番号 113),
5 nbla23718, nbla23719, nbla23754(配列番号 114), nbla23892(配列番号 115),
nbla23951, nbla23956(配列番号 116) (以上、新規遺伝子)、nbla20393, nbla20423,
nbla20510, nbla20833, nbla20931, nbla20943, nbla21258, nbla21268, nbla21273,
nbla21412, nbla21578, nbla21614, nbla21624, nbla21655, nbla21670, nbla21787,
nbla21954, nbla21979, nbla22043, nbla22137, nbla22192, nbla22325, nbla22327,
10 nbla22337, nbla22482, nbla22763, nbla22788, nbla22839, nbla22851, nbla22935,
nbla22937, nbla23238, nbla23327, nbla23360, nbla23519, nbla23553, nbla23554,
nbla23683, nbla23812, nbla23823, nbla23849, nbla23882, nbla23910, nbla24064,
nbla24405, nbla24897 および nbla24913 (以上、既知遺伝子) である。

【0051】 II-3 に属する特定のクローンは、nbla20134, nbla20181,
15 nbla20264(配列番号 31), nbla20269(配列番号 32), nbla20276, nbla20406(配列
番号 33), nbla20709, nbla20782, nbla20788, nbla20949(配列番号 34), nbla21046,
nbla21122, nbla21211, nbla21233, nbla21251(配列番号 35), nbla21334(配列番
号 36), nbla21356(配列番号 37), nbla21375, nbla21418(配列番号 38),
nbla21480(配列番号 39), nbla21509(配列番号 40), nbla21524, nbla21527(配列
20 番号 41), nbla21551(配列番号 42), nbla21735(配列番号 43), nbla21843,
nbla21934, nbla22153, nbla22247(配列番号 44), nbla22382, nbla22477(配列番
号 45), nbla22571, nbla22639(配列番号 46), nbla22789, nbla23060,
nbla23174(配列番号 47), nbla23198(配列番号 48), nbla23218, nbla23328(配列
番号 49), nbla23420(配列番号 50), nbla23483(配列番号 51), nbla23545,
25 nbla23653, nbla23666, nbla23760, nbla23808(配列番号 52), nbla23830,
nbla23851(配列番号 53), nbla23942, nbla24011(配列番号 54), nbla24131,

nbla24235(配列番号 55), nbla24556(配列番号 56), nbla24800(配列番号 57),
nbla24908 (以上、新規遺伝子)、nbla20133, nbla20263, nbla20723, nbla20748,
nbla20915, nbla21016, nbla21034, nbla21067, nbla21167, nbla21319, nbla21331,
nbla21516, nbla21682, nbla21691, nbla21822, nbla21976-2, nbla21977,
5 nbla22159, nbla22168, 22215-1, nbla22244, nbla22263, nbla22548, nbla23033,
nbla23231, nbla23284, nbla23329-1, nbla23384, nbla23556, nbla23674,
nbla23879-2, nbla24098, nbla24329, nbla24334, nbla24439-1, nbla24443,
nbla24507, nbla24836, nbla24958 および nbla24989 (以上、既知遺伝子) である。

【0052】 (グループ III)

10 このグループに属する遺伝子は、その発現 (4 s) が F と同程度であり、UF
より低い。さらに、これら遺伝子をサブグループに分類すると、III-1、III-
2 および III-3 となる。各サブグループの遺伝子発現パターンについては、表
1 を参照。

15 【0053】 III-1 に属する特定のクローンは、nbla20874 (新規遺伝子) お
よび nbla23262 (既知遺伝子) である。

20 【0054】 III-2 に属する特定のクローンは、nbla20604, nbla21226,
nbla21908(配列番号 27), nbla21928, nbla22027(配列番号 28), nbla22082(配列
番号 29), nbla22643, nbla23303(配列番号 30), nbla23649, nbla24468 (以上、
新規遺伝子)、nbla20141, nbla20446, nbla21538, nbla21558, nbla21623,
nbla21969, nbla22219, nbla23272, nbla23307 および nbla24117 (以上、既知遺
伝子) である。

25 【0055】 III-3 に属する特定のクローンは、nbla20578(配列番号 26),
nbla21212 (以上、新規遺伝子)、nbla23478, nbla23896 および nbla24920 (以上、
既知遺伝子) である。

【0056】 (グループ IV)

このグループに属する遺伝子は、その発現 (4 s) がUFと同程度であり、Fより高い ($F < 4s = UF$)。このグループに属する特定のクローンは、nbla23899 (配列番号 25) および nbla24526 (以上、新規遺伝子) である。

【0057】 (グループV)

5 このグループに属する遺伝子は、その発現 (4 s) がFより低く、UFより高い。さらに、これら遺伝子をサブグループに分類すると、V-1、V-2、V-3、V-4 および V-5 となる。各サブグループの遺伝子発現パターンについては、表1を参照。

10 【0058】 V-1 に属する特定のクローンは、nbla22031 (既知) である。V-2 に属する特定のクローンは、nbla22305 (既知) である。

15 【0059】 V-3 に属する特定のクローンは、nbla20123 (配列番号 17), nbla20382 (配列番号 18), nbla20660 (配列番号 19), nbla20666 (配列番号 20), nbla21239 (配列番号 21), nbla21729 (配列番号 22), nbla21831 (配列番号 23), nbla22826 (配列番号 24), nbla24521 (以上、新規遺伝子)、nbla20235 および nbla22607 (以上、既知遺伝子) である。

【0060】 V-4 に属する特定のクローンは、nbla20787 (配列番号 15), nbla22284 (配列番号 16) および nbla24756 (以上、新規遺伝子) である。

【0061】 V-5 に属する特定のクローンは、nbla24348 および nbla24686 (以上、新規遺伝子) である。

20 【0062】 (グループVI)

このグループに属する遺伝子は、その発現 (4 s) がFおよびUFより低いか、またはFおよびUFより高い。さらに、これら遺伝子をサブグループに分類すると、VI-1、VI-2、VI-3、VI-4、VI-5、VI-6、VI-7 および VI-8 となる。各サブグループの遺伝子発現パターンについては、表1を参照。

25 【0063】 VI-1 に属する特定のクローンは、nbla21297 (配列番号 14) (新規遺伝子) および nbla22443 (既知遺伝子) である。

【0064】 VI-2に属する特定のクローンは、nbla20211, nbla20469, nbla21250, nbla22182(配列番号12), nbla22761, nbla23256(配列番号13), nbla23631, nbla23711, nbla24532, nbla24951(以上、新規遺伝子)、nbla21750, nbla22129, nbla22808, nbla23064 および nbla23358(以上、既知遺伝子)である。

5 【0065】 VI-3に属する特定のクローンは、nbla20226(配列番号11)(新規遺伝子)である。

【0066】 VI-4に属する特定のクローンは、nbla21650(配列番号7), nbla22094(配列番号8), nbla22739(配列番号9)および nbla23525(配列番号10)(以上、新規遺伝子)である。

10 【0067】 VI-5に属する特定のクローンは、nbla23701(配列番号5)および nbla23890(配列番号6)(以上、新規遺伝子)である。

【0068】 VI-6に属する特定のクローンは、nbla20087(既知遺伝子)である。

15 【0069】 VI-7に属する特定のクローンは、nbla22689(配列番号2), nbla22968, nbla24079, nbla24135(配列番号3)および nbla24350(配列番号4)(以上、新規遺伝子)である。

【0070】 VI-8に属する特定のクローンは、nbla22256(新規遺伝子)である。

【0071】 (グループVII)

20 このグループに属する遺伝子(1個のみ)は、4sでのみ発現している。その特定のクローンは、nbla22420(配列番号1)(新規遺伝子)である。

【0072】 前記それぞれのグループについて、遺伝子群を新規な遺伝子と、既知の遺伝子に分け、まとめたものが表1である。

25 【0073】 表1

グループ	発現パターン	新規遺伝子	既知遺伝子	計
I-1	$F \gg 4s = UF$	5	0	5
I-2	$F > 4s = UF$	59	16	75
I-3	$F \geq 4s = UF$	12	11	23
II-1	$F = 4s \gg UF$	18	5	23
II-2	$F = 4s > UF$	105	47	152
II-3	$F = 4s \geq UF$	55	40	95
III-1	$F = 4s \ll UF$	1	1	2
III-2	$F = 4s < UF$	10	10	20
III-3	$F = 4s \leq UF$	2	3	5
IV	$F < 4s = UF$	2	0	2
V-1	$F > 4s \gg UF$	0	1	1
V-2	$F \geq 4s \gg UF$	0	1	1
V-3	$F > 4s > UF$	9	2	11
V-4	$F \geq 4s > UF$	3	0	3
V-5	$F \geq 4s \geq UF$	2	0	2
VI-1	$F \gg 4s < UF$	1	1	2
VI-2	$F > 4s < UF$	10	5	15
VI-3	$F > 4s \leq UF$	1	0	1
VI-4	$F \geq 4s \leq UF$	4	0	4
VI-5	$F < 4s \gg UF$	2	0	2
VI-6	$F \leq 4s \gg UF$	0	1	1
VI-7	$F < 4s > UF$	5	0	5
VI-8	$F \leq 4s \geq UF$	1	0	1
VII	4sのみ	1	0	1
クローン総数		308	144	452

なお、表中および上記分類において、「=」は遺伝子発現量がサブセット間で

ほぼ等しいことを示す。

【0074】 例えば、グループ VI に属する遺伝子群は、4 s 期神経芽細胞腫における遺伝子発現量と、予後良好型および予後不良型の臨床組織における同一遺伝子の遺伝子発現量を比較すると、4 s 期神経芽細胞腫において特異的である（すなわち、いずれよりもかなり高いか、或いはかなり低い）。従って、これらの遺伝子の少なくともひとつの存在を臨床組織サンプルに検出すれば、4 s 期神経芽細胞腫である可能性が高いとの判定ができる。

【0075】 また、グループ VII に属する遺伝子は、4 s 期神経芽細胞腫の臨床組織においてのみ、検出されている。従って、この遺伝子の存在を臨床組織サンプルに検出すれば、4 s 期神経芽細胞腫である可能性が高いとの判定ができることになる。

【0076】 さらに、残りのグループに属する遺伝子群も、4 s 期神経芽細胞腫における、遺伝子発現量と、予後良好型および予後不良型の臨床組織における同一遺伝子の遺伝子発現量を比較すると、上記のような発現パターンが見出される。従って、これらの遺伝子の発現パターンを複数個、検出して、それらを解析すれば、検定する臨床組織サンプルが 4 s 期神経芽細胞腫であるかどうかの判定ができる。特に、この目的で本発明の核酸を使用するとき、後述の核酸マイクロアレイを作製して、前記判定に供することが好ましい。

【0077】 このように、本発明の核酸は神経芽細胞腫の予後の良不良を診断する腫瘍マーカーとして有用である。すなわち、本発明は、ヒト神経芽細胞腫の予後およびそれに関連する様々な遺伝子情報を以下の手段により提供可能とする。

【0078】 （1）ハイブリダイゼーションに用いるプローブ

本発明の 1 つの実施の形態に従えば、本発明の核酸をハイブリダイゼーションのプローブ（すなわち、本発明の核酸プローブ）として使用することによって、神経芽細胞腫で発現している本発明の遺伝子を検出することが可能である。さらに、本発明の核酸をハイブリダイゼーションのプローブとして使用し、様々な腫

瘍、正常組織における遺伝子発現を調べることによって、該遺伝子発現の分布を同定することも可能である。

【0079】 本発明の核酸をハイブリダイゼーションのプロープとして使用する場合、ハイブリダイゼーション方法自身については特に限定されない。好適な方法としては、例えばノザンハイブリダイゼーション、サザンハイブリダイゼーション、コロニーハイブリダイゼーション、ドットハイブリダイゼーション、Fluorescence in situ hybridization (FISH)、in situ hybridization (ISH)、DNAチップ法、マイクロアレイ法、などが挙げられる。

【0080】 前記ハイブリダイゼーションの1つの応用例として、本発明の核酸をノザンハイブリダイゼーションのプロープとして用い、検定する臨床組織サンプル中においてmRNAの長さを測定することや、遺伝子発現を定量的に検出することが可能である。

【0081】 また、別の応用例として、本発明の核酸をサザンハイブリダイゼーションのプロープとして用い、検定する臨床組織サンプルのゲノムDNA中の、該DNA配列の有無を検出することが可能である。

【0082】 さらに別の応用例として、本発明の核酸をFISH法のプロープとして用い、本発明の遺伝子の染色体上の位置を同定することも可能である。

【0083】 さらに別の応用例として、本発明の核酸をISH法のプロープとして用い、本発明の遺伝子の発現の組織分布を同定することも可能である。

【0084】 本発明の核酸をハイブリダイゼーション用プロープとして使用する場合、少なくとも20個の塩基長が必要であり、本発明の核酸のうち、20個以上の連続した塩基からなる核酸が好ましく用いられる。より好ましくは、40個以上の連続した塩基からなる核酸が用いられる。特に好ましくは、60個以上の連続した塩基からなる核酸が用いられる。さらに、配列表の配列番号1～174に記載の核酸配列の全長からなる核酸を用いてもよい。

【0085】 当業者にとって、上記各種のハイブリダイゼーションにおける核酸プローブ技法は周知であり、例えば、個々の塩基長を有する本発明の核酸プローブと、目的とするポリヌクレオチドとの適当なハイブリダイズ条件は容易に決定することができる。種々の塩基長を含むプローブに対し至適であるハイブリダイズ条件を得るためのかかる操作は、当業者では周知であり、例えば、Sambrookら、Molecular Cloning: A laboratory manual（前掲）を参照して、行えばよい。

【0086】 好ましくは、本発明の核酸プローブは、容易に検出されるように標識される。検出可能な標識は、目視によって、または機器を用いるかのいずれかによって検出され得るいかなる種類、元素または化合物であってもよい。通常使用される検出可能な標識としては、放射性同位元素、アビジンまたはビオチン、蛍光物質（FITCまたはローダミン等）が挙げられる。前記放射性同位元素は、 ^{32}P 、 ^{14}C 、 ^{125}I 、 ^3H 、 ^{35}S 等である。また、ビオチン標識ヌクレオチドは、ニックトランスレーション、化学的または酵素的手段によって、核酸に組み込むことができる。ビオチン標識されたプローブは、アビジン／ストレプトアビジン、蛍光標識、酵素、金コロイド複合体等などの標識手段を使用したハイブリダイゼーション後に検出される。また、本発明の核酸プローブは、タンパク質と結合させることによって標識されてもよい。その目的で、例えば放射性または蛍光ヒストン一本鎖結合タンパク質が使用される。このようにして、適当に標識されたプローブは、本発明の診断剤を構成する。

【0087】 (2) PCRに用いるプライマー

本発明の遺伝子を検出するには上記のハイブリダイゼーション法の他に、本発明の核酸に含まれる任意の核酸（DNA）配列からプライマーを設計して、Polymerase Chain Reaction（PCR）法を用いることにより可能である。例えば、検定する臨床組織サンプルからmRNAを抽出し、RT-PCR法により遺伝子発現を半定量的に測定することが可能である。このような方法は、当業者にとって周知の方法に従って行われるが、例えば、Sambrook ら、Molecular Cloning: A

laboratory manual（前掲）、および遺伝子病入門（高久史磨著：南江堂）が参照される。

【0088】 本発明の核酸（DNA）をPCR用プライマー（すなわち、本発明のプライマー）として使用する場合、10ないし60個の塩基長が必要であり、
5 本発明に係る核酸配列の一部であって、10ないし60個の連続した塩基を有する核酸が好ましく用いられる。より好ましくは、15ないし30個の塩基を有するものが用いられる。また一般的には、プライマー配列中のGC含量が40ないし60%のものが好ましい。さらに、増幅に用いる2つのプライマー間の T_m 値に差がないことが望まれる。また、プライマーの3'末端でアニールせず、プライマー内で2次構造をとらないことも望ましい。

【0089】 （3）遺伝子のスクリーニング

本発明の核酸を使用することによって、神経芽細胞腫のみならず様々な組織や細胞で発現している本発明の遺伝子の発現（またはその分布）を検出することが可能である。これは例えば、本発明の核酸を上記のようにハイブリダイゼーションのプロブ、またはPCRのプライマーとして使用することによって、可能と
15 なる。

【0090】 また、DNAチップ、核酸マイクロアレイ等を用いても遺伝子の発現分布を検出することが可能である。すなわち、本発明の核酸を直接、前記チップ、アレイ上に張り付けることが出来る。チップ、アレイに張り付けるために、
20 高精度分注機でかかる核酸等（DNA）を基板にスポットする方法が知られている（例えば、米国特許第5807522号を参照）。そこに臨床組織サンプルから抽出したmRNAを蛍光物質などで標識し、ハイブリダイズさせ、その遺伝子がどの様な組織の細胞で高発現しているかを解析することが可能である。またチップ、アレイ上に張り付けるDNAは、本発明の核酸またはその断片をプロブ
25 として用いたPCRの反応産物であってもよい。別法として、本発明の核酸断片

(DNA断片)を基板上で直接合成してDNAチップ若しくはアレイとすることもできる(例えば、米国特許第5424186号を参照)。

【0091】 (4) DNAのクローニング

本発明の核酸を使用することによってヒト神経芽細胞腫において発現している
5 遺伝子をクローニングすることが可能である。例えば、本発明の核酸をノザンハイブリダイゼーションのプロープ、コロニーハイブリダイゼーションのプロープまたはPCRのプライマーとして使用し、本発明の遺伝子をクローニングすることが可能である。クローニング可能な遺伝子としては特に、予後不良型の神経芽細胞腫と予後不良型の神経芽細胞腫で発現量に差がある遺伝子、4s期神経芽細胞腫で発現する遺伝子、他の組織や癌細胞での発現様式とは異なって発現している
10 遺伝子、細胞周期依存的に発現している遺伝子、神経分化に伴って誘導される遺伝子、癌遺伝子または癌抑制遺伝子によって発現が制御される遺伝子等が挙げられる。

【0092】 (5) 腫瘍の予後診断の方法およびそのために使用可能な腫瘍マ

15 ーカー

上述のように本発明の遺伝子は、4s期神経芽細胞腫(予後良好型および予後不良型の神経芽細胞腫を含めて)において発現が見出された。そこで、本発明の核酸をハイブリダイゼーションのプロープ或いはPCRのプライマーとして使用し、被験者から採取した、検定する臨床組織サンプル中で、前記遺伝子の発現パ
20 ターンを調べることにより予後診断(4s期神経芽細胞腫の判定)が行える。遺伝子の検出方法としては、前述のノーザンブロットハイブリダイゼーション法、インサイチュハイブリダイゼーション法、およびRT-PCR法等が挙げられる。

【0093】 ハイブリダイゼーション法を用いるとき、検出する臨床組織サンプル中で前記核酸プロープとハイブリダイズする核酸の量を対照サンプル(例えば、予後良好型および予後不良型の神経芽細胞腫からの臨床組織)と比較して、
25 遺伝子発現パターンを決定する。このようにして遺伝子発現パターンを検出する

のに使用したそれぞれの核酸について、例えば、表 1 に記載の発現パターンと比較、解析して、予後診断できる。この目的では、前記の核酸マイクロアレイの使用が望ましい。また、RT-PCR法を用いるとき、サンプルからmRNAを抽出し、これをDNAに逆転写して、前記プライマーにより増幅するRT-PCR法を用いて、遺伝子発現を半定量的に測定する。それから前記と同様にして、予後診断できる。この目的のためには、該プライマーを必須成分として一組含有する診断キットを用いることが好ましい。該診断キットは、プライマー成分以外に、PCR用の緩衝液、洗浄液、および酵素等の公知の成分を含む。

【0094】 (6) アンチセンスオリゴヌクレオチド

本発明の別の実施の形態に従えば、本発明の核酸に対するアンチセンスオリゴヌクレオチドが提供される。前記アンチセンスオリゴヌクレオチドは、本発明の核酸にハイブリダイズすることが可能であり、アンチセンスDNAとアンチセンスRNAとを含む。アンチセンスDNAは、DNAからmRNAへの転写を阻害し、アンチセンスRNAは、mRNAの翻訳を阻害する。このようなアンチセンスオリゴヌクレオチドは、自動合成機を使用して、または本発明の核酸を鋳型とするPCR法により合成できる。さらに、該アンチセンスオリゴヌクレオチドは、DNAやmRNAとの結合力、組織選択性、細胞透過性、ヌクレアーゼ耐性、細胞内安定性が高められたアンチセンスオリゴヌクレオチド誘導体をも包含する。このような誘導体は、公知のアンチセンス技術を用いて、合成することができる。

【0095】 mRNAの翻訳開始コドン付近、リボソーム結合部位、キャッピング部位、スプライス部位の配列に相補的な配列を有するアンチセンスオリゴヌクレオチドは、該RNAの合成を阻止することができ、特に遺伝子の発現抑制効果が高い。従って、本発明は、かかるアンチセンスオリゴヌクレオチドを好適に包含する。

【0096】 (7) 遺伝子治療

本発明の別の実施の形態に従えば、遺伝子治療に用いられる治療用遺伝子をコードする核酸配列が提供される。そこで、本発明の核酸を遺伝子運搬に使用されるベクターに導入して、任意の発現プロモーターにより導入遺伝子（本発明の遺伝子）を発現させ、遺伝子治療に用いることができる。

5 【0097】 1. ベクター

導入されうるウイルスベクターは、DNAまたはRNAウイルスをもとに作製できる。このようなベクターは、MoMLVベクター、ヘルペスウイルスベクター、アデノウイルスベクター、AAVベクター、HIVベクター、SIVベクター、センダイウイルスベクター等のいかなるウイルスベクターであってもよい。

10 また、ウイルスベクターの構成タンパク質群のうち1つ以上を、異種ウイルスの構成タンパク質に置換する、または、遺伝子情報を構成する核酸配列のうち一部を異種ウイルスの核酸配列に置換する、シュードタイプ型のウイルスベクターも本発明に使用できる。例えば、HIVの外皮タンパク質であるEnvタンパク質を、小水痘性口内炎ウイルス（vesicular stomatitis Virus: VSV）の外皮タンパク質であるVSV-Gタンパク質に置換したシュードタイプウイルスベクターが

15 挙げられる（Naldini L., Science, U.S.A., 1996, Vol. 272, p.263）。さらに、治療効果を持つウイルスであれば、ヒト以外の宿主域を持つウイルスもウイルスベクターとして使用可能である。ウイルス以外のベクターとしてはリン酸カルシウムと核酸の複合体、リポソーム、カチオン脂質複合体、センダイウイルス

20 リポソーム、ポリカチオンを主鎖とする高分子キャリアー等が使用可能である。さらに遺伝子導入系としてはエレクトロポレーション、遺伝子銃等も使用可能である。

 【0098】 2. 発現プロモーター

さらに、治療用遺伝子に用いられる発現カセットは、標的細胞内で遺伝子を発現

25 現させることができるものであれば、特に制限されることなくいかなるものでも用いることができる。当業者はそのような発現カセットを容易に選択することが

できる。好ましくは、動物由来の細胞内で遺伝子発現が可能な発現カセットであり、より好ましくは、哺乳類由来の細胞内で遺伝子発現が可能な発現カセットであり、特に好ましくは、ヒト由来の細胞内で遺伝子発現が可能な発現カセットである。発現カセットに用いられる遺伝子プロモーターは、例えばアデノウイルス、
5 サイトメガロウイルス、ヒト免疫不全ウイルス、シミアンウイルス 40、ラウス肉腫ウイルス、単純ヘルペスウイルス、マウス白血病ウイルス、シンビスウイルス、A型肝炎ウイルス、B型肝炎ウイルス、C型肝炎ウイルス、パピローマウイルス、ヒトT細胞白血病ウイルス、インフルエンザウイルス、日本脳炎ウイルス、JCウイルス、パルボウイルスB19、ポリオウイルス等のウイルス由来のプロ
10 モーター、アルブミン、SR α 、熱ショック蛋白、エロンゲーション因子等の哺乳類由来のプロモーター、CAGプロモーター等のキメラ型プロモーター、テトラサイクリン、ステロイド等によって発現が誘導されるプロモーターを含む。

【0099】 3. 医薬品

遺伝子治療に用いる医薬品は、上記のような治療用にデザインされた薬物遺伝子を含む組換えウイルスベクターとして調製される。より具体的に言えば、本発明の遺伝子を含む組換えウイルスベクターを、水、生理食塩水、等張化した緩衝液等の適当な溶媒に溶解することで調製できる。その際、ポリエチレングリコール、グルコース、各種アミノ酸、コラーゲン、アルブミン等を保護材として添加しても調製可能である。

【0100】 4. 投与方法、投与量

上記医薬品の生体への投与の方法については特に制限はない。例えば非経口的投与（注射投与など）することにより好ましく実施できる。その医薬品の使用量は、その使用方法、使用目的等により異なり、当業者は容易に適宜選択および最適化することが可能である。例えば、注射投与して用いる場合には、1日量約0.
25 $1\mu\text{g}/\text{kg} \sim 1,000\text{mg}/\text{kg}$ を投与するのが好ましく、より好ましくは、1日量約 $1\mu\text{g}/\text{kg} \sim 100\text{mg}/\text{kg}$ である。

【0101】 以下、実施例に即してさらに詳しく説明するが、本発明の技術的範囲はこれらの例に限定されるものではない。

【0102】 (実施例)

以下、実施例に基づいて本発明をより具体的に説明するが、本発明は以下の実施例に限定されるものではない。

【0103】 (製造例1) 神経芽細胞腫からのcDNAライブラリーの作製

1. サンプル入手

ヒト神経芽細胞腫(4s期)の臨床組織サンプルを手術摘出直後に準無菌的に凍結し、その後-80℃に保存した。

【0104】 2. mRNAの調製

1に記載のサンプル2~3gをTotal RNA Extraction Kit (QIGEN社製)で処理し、トータルRNAを抽出した。抽出したトータルRNAをオリゴdTセルロースカラム(Collaborative社製)を用いて、poly A構造を有するmRNAプールに精製した。さらに、以下の手順に従い、オリゴキャッピング法(Y. Suzuki et al., Gene, U.S.A., 1997, Vol. 200, pp. 149-156)を用いてcDNAライブラリーを調製した。

【0105】 3. mRNAの脱リン酸化

上記2において調製した100~200μgのmRNAプールを67.3μlの0.1%ジエチルピロカーボネート(DEPC)を含む滅菌超純水(DEPC-H₂O)に溶解させ、20μlの5x BAPバッファー[Tris-HCl (500mM、pH=7.0) /メルカプトエタノール(50mM)]、2.7μlのRNasin (40unit/μl: Promega社製)、10μlのBAP (0.25unit/μl、バクテリア由来アルカリフォスファターゼ: 宝酒造社製)を加えた。この混合液を37℃で1時間反応させ、mRNAの5'末端の脱リン酸化処理を行った。その後、フェノール・クロロホルム処理を2回行い、最後にエタノール沈殿により、脱リン酸化mRNAプールを精製した。

【0106】 4. 脱リン酸化mRNAの脱キャップ処理

上記3において調製した脱リン酸化mRNAプールの全量を75.3 μ lの0.1%DEPCを含む滅菌超純水に溶解させ、20 μ lの5xTAPバッファー[酢酸ナトリウム(250mM、pH=5.5)/メルカプトエタノール(50mM)、EDTA(5mM、pH=8.0)]、2.7 μ lのRNasin(40unit/ μ l)、2 μ lのTAP(Tobacco Acid pyrophosphatase: 20unit/ μ l)]を加えた。この混合液を37℃で1時間反応させ、脱リン酸化mRNAの5'末端の脱キャップ処理を行った。この際、キャップ構造を持たない不完全長の脱リン酸化mRNAは、脱キャップ処理されず5'末端は脱リン酸化された状態に留まった。その後、フェノール・クロロホルム処理、エタノール沈殿により、脱キャップmRNAプールを精製した。

【0107】 5. オリゴキャップmRNAの調製

上記4において調製した脱キャップmRNAプールの全量を11 μ lの0.1%DEPCを含む滅菌超純水に溶解させ、4 μ lの5'-オリゴRNA(5'-AGCAUCGAGUCGGCCUUGGCCUACUGG-3': 配列番号1079; 100ng/ μ l)、10 μ lの10xligationバッファー[Tris-HCl(500mM、pH=7.0)/メルカプトエタノール(100mM)]、10 μ lの塩化マグネシウム(50mM)、2.5 μ lのATP(24mM)、2.5 μ lのRNasin(40unit/ μ l)、10 μ lのT4 RNA ligase(25unit/ μ l: 宝酒造社製)、50 μ lのポリエチレングリコール(50%w/v、PEG8000: シグマ社製)を加えた。この混合液を20℃で3時間反応させ、脱キャップmRNAの5'末端に5'-オリゴRNAを連結した。この際、キャップ構造を持たない不完全長の脱リン酸化mRNAは、5'-オリゴRNAが連結されない。その後、フェノール・クロロホルム処理、エタノール沈殿により、オリゴキャップmRNAプールを精製した。

【0108】 6. オリゴキャップmRNAからのDNA除去

上記5において調製したオリゴキャップmRNAプールを70.3 μ lの0.1%DEPCを含む滅菌超純水に溶解させ、4 μ lのTris-HCl (1M、pH=7.0)、5.0 μ lのDTT (0.1M)、16 μ lの塩化マグネシウム (50mM)、2.7 μ lのRNasin (40unit/ μ l)、2 μ lのDNase I (5unit/ μ l：宝酒造社製)を加えた。この混合液を37℃で10分間反応させ、余分なDNAを分解した。その後、フェノール・クロロホルム処理、エタノール沈殿、カラム精製 (S-400HR：ファルマシアバイオテック社製)により、DNA (-) オリゴキャップmRNAプールを精製した。

【0109】 7. First Strand cDNAの調製

上記6において調製したDNA (-) オリゴキャップmRNAプールを、SuperScript II (ライフテックオリエンタル社製キット)を用いて逆転写し、First Strand cDNAプールを得た。

【0110】 DNA (-) オリゴキャップmRNAプールを21 μ lの滅菌蒸留水に溶解させ、10 μ lの10xFirst strandバッファー (キット付属品)、8 μ lのdNTPmix (5mM、キット付属品)、6 μ lのDTT (0.1M、キット付属品)、2.5 μ lのオリゴdTアダプタープライマー (5pmol/ μ l、5'-GCGGCTGAAGACGGCCTATGTGGCCTTTTTTTTTTTTTTTT-3'配列番号1080)、2.0 μ lのRNasin (40unit/ μ l)、2 μ lのSuperScript II RTase (キット付属品)を加えた。この混合液を42℃で3時間反応させ、逆転写反応を行った。その後、フェノール・クロロホルム処理、アルカリ処理、中和処理にて全てのRNAを分解し、エタノール沈殿で精製した。

【0111】 8. Second Strand cDNAの調製

上記7において調製したFirst Strand cDNAプールを、GeneAmp (パーキンエルマー社製キット)を用いて、PCR増幅した。First Strand cDNAプールを52.4 μ lの滅菌蒸留水に溶解させ、30 μ lの3.3xReactionバッファー (キット付属品)、8 μ lのdNTP mix (2.5

mM、キット付属品)、4.4 μ lの酢酸マグネシウム(25 mM、キット付属品)、1.6 μ lのプライマーF(10 pmol/ μ l、5'-AGCATCGAGTCGGCCTTGTTG-3'配列番号1081)、1.6 μ lのプライマーR(10 pmol/ μ l、5'-GCGCTGAAGACGGCCTATGT-3'配列番号1082)、2 μ lのrTth(キット付属品)を加えた。この混合液に、100 μ lのミネラルオイルを静かに加え重層した。この反応液を94°Cで5分間変性させた後、94°C、1分間、52°C、1分間、72°C、10分間を1サイクルとして12サイクル繰り返し、さらに72°Cで10分間放置し、PCR反応を行った。その後、フェノール・クロロホルム処理、エタノール沈殿で精製し、Second Strand cDNAプールを得た。

【0112】 9. Second Strand cDNAのSfiI処理

上記8において調製したSecond Strand cDNAプールを87 μ lの滅菌蒸留水に溶解させ、10xNEBバッファー(NEB社製)、100xBSA(ウシ血清アルブミン、NEB社製)、2 μ lのSfiI(制限酵素、20 unit/ μ l、NEB社製)を加えた。この混合液を50°Cで一晩反応させ、SfiIによる制限酵素処理を行った。その後、フェノール・クロロホルム処理、エタノール沈殿で精製し、両末端がSfiI処理されたcDNAプールを得た。

【0113】 10. SfiI処理されたcDNAのサイズ分画

上記9において調製したSfiI処理されたcDNAプールを1%のアガロースゲルで電気泳動し、2 kb以上の分画をGene clean II(Bio 101社製)を用いて精製した。精製したcDNAプールは100 μ lの滅菌蒸留水に溶解させ、37°Cで6時間放置した。その後、フェノール・クロロホルム処理、エタノール沈殿で精製し、長鎖cDNAプールを得た。

【0114】 11. cDNAライブラリー

上記10において調製した長鎖cDNAプールをDNA Ligation kit ver.1(宝酒造社製キット)を用いてクローニングベクターであるpME18S-FL3(東

京大学医科学研究所 菅野純夫教授より供与) にライゲーションを行った。長鎖 cDNA プールを $8 \mu\text{l}$ の滅菌蒸留水に溶解し、あらかじめ制限酵素 *Dra* I I で処理した $1 \mu\text{l}$ の pME18S-FL3、 $80 \mu\text{l}$ の Solution A (キット付属品)、 $10 \mu\text{l}$ の Solution B (キット付属品) を加え、
5 16℃で3時間反応させた。その後、フェノール・クロロホルム処理、エタノール沈殿で精製し cDNA ライブラリーを得た。

【0115】 (実施例1) 大腸菌へのトランスフォーメーション

1. クローニング

製造例1の12で調製した cDNA ライブラリーを大腸菌 (TOP-10、
10 Invitrogen 社製) にトランスフォーメーションした。すなわち、cDNA ライブラリーを $10 \mu\text{l}$ の滅菌蒸留水に溶解し、TOP-10 に混合した。その後、氷上にて30分間、40℃で1分間、氷上で5分間インキュベートした。 $500 \mu\text{l}$ の SOB 培地を加え、37℃で60分間振盪培養した。アンピシリンを含む寒天培地上に適量づつ播種し、37℃で一昼夜培養して、大腸菌クローンを得た。
15 ここで、5075個のクローンを無作為にピックアップした。

【0116】 2. 大腸菌クローンの保存 (グリセロールストックの調製)

上記1において得られた寒天培地上の各大腸菌クローンを、爪楊枝にて拾い上げ、96穴プレートに準備した $120 \mu\text{l}$ の LB 培地中に懸濁させた。この96穴プレートを37℃で一晩静置し、大腸菌の培養を行った。その後、60%グリセロール溶液を $72 \mu\text{l}$ 加え、-20℃で保存した (グリセロールストック)。
20

【0117】 (実施例2) 核酸配列決定

1. プラスミドの調製

実施例1の2で調製した $10 \mu\text{l}$ のグリセロールストックを 15ml の遠心チューブに移し、 3ml の LB 培地、 $50 \mu\text{g}/\text{ml}$ のアンピシリンを加え、37℃
25 で一晩振盪し、大腸菌の培養を行った。その後、QIA Prep Spin Miniprep Kit (QIAGEN 社製) を用いて大腸菌からプラスミドDNAを抽出、精製した。

【0118】 2. 両末端シーケンスの解析

上記1において調製したプラスミドDNAをDNA Sequencing Kit (ABI社製キット)を用いて両末端のシーケンスを決定した。600ngのプラスミドDNA、8 μ lのプレミックス(キット付属品)、3.2pmolのプライマーを混合し、滅菌蒸留水で合計20 μ lになるように調製した。この混合液を96℃で2分間変性させた後、96℃、10秒間、50℃、5秒間、60℃、4分間を1サイクルとして25サイクル繰り返し反応を行った。その後エタノール沈殿で精製した。変性条件下でポリアクリルアミドゲルにて電気泳動を行い、ABI 377 (ABI社製)を用いて配列決定を行った。

【0119】 (実施例3) データベースを用いるホモロジー検索

実施例2において両末端シーケンスを解析して得られたサンプルのDNA配列情報についてインターネットを介したDNA配列のホモロジー検索を行った。検索にはNCBI (National Center of Biotechnology Information USA, <http://www.ncbi.nlm.nih.gov/BLAST>)のBLASTを用いた。BLASTサーチのソフトとして、DYNACLUST Ver. 4.0 (DYNACOM社)を使用した。ホモロジー検索の結果、約2700個の遺伝子を同定した。これらの遺伝子を分類し、RepeatMaskerソフトを使用して反復配列を取り除いたところ、1598個の遺伝子が得られた。そのうち、新規な遺伝子は、963個であり、既知の遺伝子は635個であった。

【0120】 これらの遺伝子のうち、新規なもの308個については、シーケンスできたものに関して、配列表にそれらの部分解読配列を示してある。

【0121】 (実施例4) 半定量的RT-PCRによる遺伝子発現の比較**1. サンプル入手**

ヒト神経芽細胞腫(4s期)の臨床組織サンプルを手術摘出直後に準無菌的に凍結し、その後-80℃に保存した。このようなサンプルを8検体用意した。同

様に、予後良好型および予後不良型のヒト神経芽細胞腫の臨床組織サンプルを各12検体ずつ用意した。

【0122】 予後良好型および予後不良型の神経芽細胞腫サンプルについては、予後の検定を以下の指標をもとに行ったものである。

5 予後良好型：

- ・病期1または2
- ・発症年齢が1歳未満
- ・手術後5年以上再発なく生存
- ・N-mycの増幅なし

10 予後不良型：

- ・病期4
- ・発症年齢が1歳以上
- ・手術後3年以内に死亡
- ・N-myc増幅あり

15 【0123】 2. ディファレンシャルスクリーニング

各検体の半定量的RT-PCRは以下の方法により実施した。

【0124】 a) 逆転写(RT)反応

検体からのRNAをSuperScript II reverse transcriptase (GIBCO社製)を用いて、cDNAに逆転写した。すなわち、トータルRNA 20 μ g、8 μ lのランダムプライマー(1 μ g/ μ l)(宝酒造社製)、および必要量のDEPCを含む滅菌超純水で48 μ lの溶液を調製した。この溶液を65℃で15分間、インキュベートし、反応終了後氷上に置いた。24 μ lの5 x First Strand Buffer (GIBCO社製)、12 μ lの0.1M DTT (GIBCO社製)、30 μ lのdNTPs (宝酒造社製)、4 μ lのSuperScript II reverse transcriptase、および2 μ lのDEPCを含む滅菌超純水を混合して、72 μ lの混合液を調製した。この混合液を前記の氷冷した溶液に加え、総量を120 μ lとし、42℃

で1.5時間、次いで95℃で5分間反応させた。これを-20℃で保存し、PCR鑄型の母液とした。

【0125】 このように調製したcDNA溶液をDDWで適当な倍率に希釈し、GAPDHプライマーを用いて、標準化（濃度調整）した。使用したGAPDH

プライマーの塩基配列は、下記の通りであった。

5'-ACCTGACCTGCCGTCTAGAA-3' (forward:配列番号1077)

5'-TCCACCACCCTGTTGCTGTA-3' (reverse:配列番号1078)

【0126】 続いて、DDWで希釈、濃度調整した各サンプルを下記のPCR反応に供した。

【0127】 b) PCR反応

PCR反応は、rTaq polymerase（宝酒造社製）を用いて行った。前記4s期神経芽細胞腫からのcDNAライブラリーで同定された（新規或いは既知を問わず）遺伝子に対して、適当なプライマーを設計し、濃度調整した3組のcDNAサンプル集団のディファレンシャルスクリーニングを行った。すなわち、2μlのcDNA、5μlの滅菌蒸留水、1μlの10x rTaqバッファー、1μlの2mM dNTPs、各々0.5μlの合成プライマーセット（forwardおよびreverse）、0.5μlのrTaqを混合した。この混合液を95℃で2分間変性させた後、95℃、15秒間、58℃、15秒間、72℃、20秒間を1サイクルとして35サイクル繰り返し、さらに72℃で20分間放置し、PCR反応を行った。使用するプライマーセットによって、バンドが現れなかった場合、サイクル数を増加して、PCR条件を検討し、それぞれのプライマーのアニーリング温度とサイクル数を決定できた。

【0128】 このように設定した条件でPCRを行った産物を1.5%アガロースゲルで20分間電気泳動し、エチジウムブロミドで染色して、3組の検体（4s期神経芽細胞腫、予後良好型の神経芽細胞腫、および予後不良型の神経芽細胞腫）におけるバンドの濃度を比較した。

【0129】 得られた発現パターンを検体サブセット間で、まとめたものが既出の表1である。また、発現パターンの解析の結果は、既に議論した通りである。

【0130】 なお、使用したプライマーは、検出しようとする遺伝子の末端シーケンス（実施例3）をPrimer3ソフトに入力して、適当なプライマー選択条件（塩基数、 T_m 、GC%）で選定した。前出の特定クローンに対応するプライマー配列は、配列表（配列番号175～1076）に与えられている。

産業上の利用可能性

【0131】 以上説明したように、本発明の遺伝子または本発明の核酸から得られる情報を利用することにより、検定する臨床組織サンプルから該遺伝子を検出して、神経芽細胞腫の予後診断（主に4s期神経芽細胞腫の判定）が可能となる。具体的には、前記遺伝子若しくは核酸から得られる情報を腫瘍マーカーに利用することにより、予後診断に使用可能な、診断剤の調製或いは診断用核酸マイクロアレイを設計することが可能となる。

【0132】 4s期神経芽細胞腫の正しい診断ができれば、対象患者に治療が必要かどうかの判断の重要な情報となり、場合によれば不必要な外科手術を避けることができる。

請求の範囲

1. 配列表の配列番号 1 ないし 1 7 4 に記載の核酸配列からなる群より選ばれる 1 つの配列からなる核酸。
2. 配列表の配列番号 1 ないし 1 4 に記載の核酸配列からなる群より選ばれる 1 つの配列からなる、請求項 1 に記載の核酸。
3. 請求項 1 または 2 に記載の核酸に相補的な核酸。
4. 請求項 1 ないし 3 のいずれか 1 項に記載の核酸と、ストリンジェントな条件下でハイブリダイズする核酸。
5. 以下の (a) 或いは (b) の核酸を含む核酸プローブ：
 - 10 (a) 配列表の配列番号 1 ないし 1 7 4 に記載の核酸配列からなる群より選ばれる 1 つの配列の全長若しくは一部からなる核酸、またはそれに相補的な核酸；
 - (b) 配列表の配列番号 1 ないし 1 7 4 に記載の核酸配列からなる群より選ばれる 1 つの配列からなる核酸とストリンジェントな条件下でハイブリダイズする核酸、またはそれに相補的な核酸。
- 15 6. 以下の (a) 或いは (b) の核酸を含む請求項 5 に記載の核酸プローブ：
 - (a) 配列表の配列番号 1 ないし 1 4 に記載の核酸配列からなる群より選ばれる 1 つの配列の全長若しくは一部からなる核酸、若しくはそれに相補的な核酸；
 - (b) 配列表の配列番号 1 ないし 1 4 に記載の核酸配列からなる群より選ばれる 1 つの配列からなる核酸とストリンジェントな条件下でハイブリダイズする核酸、
 - 20 若しくはそれに相補的な核酸。
7. 請求項 5 または 6 に記載の核酸プローブを有効成分として含有する 4 s 期神経芽細胞腫の診断剤。
8. 以下の (a) 或いは (b) の DNA を含むプライマー：
 - 25 (a) 配列表の配列番号 1 7 5 ないし 1 0 7 6 に記載の核酸配列からなる群より選ばれる 1 つの配列からなる DNA、またはそれに相補的な DNA；

(b)配列表の配列番号175ないし1076に記載の核酸配列からなる群より選ばれる1つの配列からなるDNAとストリンジェントな条件下でハイブリダイズするDNA、またはそれに相補的なDNA。

9. 以下の(a)或いは(b)のDNAを含むプライマー:

- 5 (a)配列表の配列番号175ないし202に記載の核酸配列、および配列番号519ないし540に記載の核酸配列からなる群より選ばれる1つの配列からなるDNA、若しくはそれに相補的なDNA、または配列表の配列番号785ないし798に記載の核酸配列からなる群より選ばれる1つの配列からなるDNA、若しくはそれに相補的なDNA;
- 10 (b)配列表の配列番号175ないし202に記載の核酸配列、および配列番号519ないし540に記載の核酸配列からなる群より選ばれる1つの配列からなるDNAと、または配列表の配列番号785ないし798に記載の核酸配列からなる群より選ばれる1つの配列からなるDNAとストリンジェントな条件下でハイブリダイズするDNA、若しくはそれに相補的なDNA。
- 15 10. 請求項8または9に記載のプライマーを一組、有効成分として含有する4s期神経芽細胞腫の診断キット。
11. 神経芽細胞腫の臨床組織サンプルから配列表の配列番号1ないし14に記載の核酸配列からなる群より選ばれる1つの配列からなる核酸の有無を検出することを特徴とする、4s期神経芽細胞腫の判定方法。
- 20 12. 固相支持体に、配列番号1ないし174に記載の核酸配列の全長若しくは一部からなる核酸を複数個組み合わせ、それらを固定してなる核酸マイクロアレイ。
13. 固相支持体に、配列番号175ないし202に記載の核酸配列、配列番号519ないし540に記載の核酸配列、および配列番号785ないし798に記載の核酸配列からなる核酸を複数個組み合わせ、それらを固定してなる核酸マイクロアレイ。
- 25

SEQUENCE LISTING

<110> Hisamitsu Pharmaceutical Co., Inc. and Chiba-Prefecture

<120> Nucleic acids isolated from stage 4s neuroblastoma

<130> FP03-029800WO-HM

<150> JP 2002-316586

<151> 2002-10-30

<160> 1082

<170> PatentIn Ver. 2.1

<210> 1

<211> 1570

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22420

<400> 1

aatggaaaca cagagcgtgt tttctgacca cacttgtaaa tagaattatg agcataactt 60
ttttgtact taaagtttgc cctaggcata tacaagtcag ttcttctaag caagatagtt 120
tcagttaaat gttgttattt gcttttggat agcctttgat catatggaca gaaataaatc 180
aggtataata aaacacacac aaagtattcc agaaaaaatt gtatttgttt ttgactaata 240
agtaaataca actatttttc ttggtttgta ttagttttta gatatttttg aaagaatgga 300
ttcaatcttt taaaaattaa gaggttaactg atttatgaac acagattaac aatcattttg 360
agacattaaa aataccatct gtacatgaga aaattataat ggtaatcaac aaaatttcag 420
tacttccag aatctgggtt tgaaacttta ttatgtttta ggggaaaagc tctcattttt 480
ctgtttgctt agatgagtta gatcactcat ttaaaatctg aagaagtcaa attatttttt 540
ataaagatcc agaataatag tgtatgtatt tctaaataat ctgaatatgt ttacattggt 600
tttttttttt taaacctagg ctaggaaggg attacctatt atctaacaaa catagtgcaa 660
ctgtatagat aaggggcaaa cttcaaagat tggatattgt ttattatgtg aaagatacat 720
aggctctggc atgatttgga agtcctaggt aactggttag gcttttcagg attgacagca 780
gctgtgcaga aattttgtta aatgcttata attttaaaaa gctgtattca aaatatttct 840
aattttcact attttttaaa gtaaatgttt ttgagagtca aagaagattc tatactttta 900
cttatgaagc agtttggtgt tgtttgttca tttctttttt tggtatgggg tctttctctg 960
ttgccaagg cggagtatg tagtggtgca atcacagctc gctgcaggct taaactcctg 1020
gtctcaagcc atttttctgc ctacgccttt ctagtagctg ggagtacagg caaatgctac 1080
tgcccaagc taatttatgt tttattttta tttttgtag agacagggtc tcgctgtgtt 1140
gtgcaggctg atctctaact cctgggctca agctatctcc ccactttgcc tcctcaagt 1200

ttgggtttat aggcgtgagc tatggtgccc agcctgaggc agtcttaacg ataatttgtt 1260
ttttctgatac aaaatctacc aaaatggccg gctgcgctgg ctacagcctg taatcccagt 1320
actttgagag accgaggtgg gtggatctct tgaggtcagg agtccaagac cagcctggca 1380
aacatggtga aaccccgctct ctactaaaaa tacaaaaatag ccgggcatgg tggcatgcac 1440
ctgtaattcc agctactcgg gagactgagg caggagaatt acttgaaccc aggaggtgga 1500
ggtttagtagca agccaagatc acgccactgc attccagcct gggcgacaga gtgagactct 1560
gtctcaaaaa 1570

<210> 2

<211> 2400

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22689

<400> 2

gaaaacaaaa ggagacgaag gacgcatgcg ttggtgagt cccggattct ggtgggttct 60
tccgctcagg ctgggtgaag cgcttcgggg tcgcccggg cagcagcctc ccggcgcgat 120
gaagacactg aggctcagag aggttaagt actcagccaa ggtcaaacag ctagtaagt 180
gtggagccag gactcaaagc caggagccat gtccacttg tccccctcac tcttcctcg 240
tgtgactgag actctgtggt ttaatctgga tcgacctgt gtggaagaga cagagctgca 300
gcagcaggaa cagcagcatc aggcctggct ccaaagcatc gcggagaaag acaacaacct 360
ggttcctatt ggcaagccag cctcagaggc ctgtagggct tacaggctct gtccctgcca 420
ccagcactat gatgacgagg aagaagagga tgatgaagat gatgaggata gtgaagagga 480
ctcagaggat gatgaggata tgcaggacat ggacgagatg aatgactaca atgagtcacc 540
ggatgatgga gaggtcaatg aggtaggcaa ggggtatggg ggagggcctc tgttcctgga 600
cccttgctcc tgaccaggtt gatggccaag gggtagcaga accctggatc cagccagggg 660
caggatctgg ggctgaggct ggctgaggcc cctccccacc cacaccacgc ctctctcca 720
ggtggacatg gaaggcaacg aacaggatca ggaccagtgg atgatctagg tagagtatcc 780
acagtaggtt cccaattcca gcacacaagc aggggccttc tcctccacca gccgcatcag 840
gatctgacct atgaggggag atggctgttg cagaagacat gggagatgga tgcagggccc 900
ctgataaaaag atatctcaaa tgcctacctg cctcactgca gctccaacc agccggggtc 960
tcctctgtct ctgtaccat agccccagct gccctcctgg tccccgtctc ctacagtga 1020
gtcttcacac cagccctgga atttttccaa caaatctgac cttattactc cttggctcct 1080
gtgagctgaa ggcccttggg attgaacttg ggattctcag cctggcattc aggaccttgg 1140
acctgatcct atcctacctt tccaggttca tctctcagta cttccacct gtggcctgta 1200
tcacagccat cccaaacaac tgtgcccaga atccatcaag ctgtctcatt ccttcattgcc 1260
acatgtgtat atgtggctgg ctttgccctt cccaccccca tcgcatctg cctggccaac 1320
tcagaacttc cagattcagt tcaaatgttg ctctttctcc atgaagtccc aggcagaaac 1380
aaccacccta tctttcagat ttatgaaagg tctctgttag aattttagt ttcatcctcc 1440
ttttattgct catcaaatgt atttctgac ttggaattgg atgaactttt atttatttat 1500
ttttgagacc aagtcttgct gtgttgccca ggtggagtg cagtagcatg atcacggctc 1560
actgcagcct tgaccacca ggctcaggca atcctccac ctacgattt ccagtagctg 1620
gaaccacagt tactcaccac cacaccggc taatttttaa atttttgta gaaacggggg 1680

tcttgctttg ttaccaggc tagtctcgaa ctctgggct caagtgatcc tcttgctttg 1740
gcctcccaaa gtgctgggat tacaggcatg agccaccatg cccagccagt gaatttcttt 1800
tcttttcttt ttcttttttt ttttttttg agacaggttc ttgctctgtc acccatgctg 1860
gagtgcagtg gcacaatcac agctcactgc agcctcagcc tcttgggctc aagcaatcct 1920
cccacctcag cctcccaagt agctgggacc acaggcatgt gccaccatgc ctgggtaatt 1980
tttgtatttt ttgtagagat gggtttttgc catgttgccc aagccggtct caaactcctg 2040
agctcaagca atctgcccac ctggcctct caaagtgtg ggattacagg caccagccac 2100
cacacagccg aatttcttaa ataagaccct aaaagcactt atgctgggat tgagataaat 2160
ccaggcagac agctacccta aatggatatgt ggaagcctcc atgggtggaga ggaaagatgt 2220
ggagacagat aattacaaag ctatgggtta tctgtgaga tggttattcc actgtgtatt 2280
atggttcctt tgaggccagc atttgggct cattcatctc tgtggcctct acccctctcc 2340
ctggcaccta gcacattcct aatacaaaag aggtggcaat aatgtttgc tgaataaaaa 2400

<210> 3

<211> 1958

<212> DNA

<213> Homo sapiens

<220>

<223> nbla24135

<400> 3

gaggcctggg gtggggacgc gaggacacca gcgtagaaga gcttacatca gaatcgagct 60
ttgtgggcgc tccgggattt ggcccttttag cgcggatcct agacaacagg ttttgacct 120
cgagagctgc agaactgagg ctactgggtg cgcagcctg ctggctccgc ctctgcctca 180
gtttcttccc ctatggcccg cgtgccgctg gggcggagtc tactctgtc acccaggctg 240
gagcacaatg gcatgacctc agctcaccac aacttccgcc tcccaggttc aagggtattct 300
cctgcctcag cctcccaagt agctgagatt ataggcagtg aacccttga gcacggggcc 360
cgcgcctggc ttgttctccg ctgtctccag cacctaggac agggcctggc acgaagtagg 420
tgacacagtga gtagtgaatg ctggagtga tagatgcaag agggctggtg tcttttagaa 480
agcagcgctc agtggctgag aactcctggg ttccctgctg ggcaagggtt aggcgtacat 540
ttgccagggt gttaaaggag gaacgcaggg ttcaaatccc agctccactt aacctcccc 600
acactgcggc gacgccgcgc ttttttccg acccaactga gccggaagtg gaggcgcggg 660
cttcccatga tgccccgga gacctttatt ctaaccgcaa ggagtagcgg aggggaggtc 720
gtgatggcgg cgccggaggc ggaggttctg tctcagccg cagtccctga tttggagtgg 780
tatgagaagt ccgaagaaac tcacgcctcc cagatagaac tacttgagac aagctctacg 840
caggaacctc tcaacgcttc ggaggccttt tgcccaagag actgcatggt accagtgggt 900
tttcttgggc ctgtgagcca ggaaggctgc tgtcagtta cttgtgaact tctaaagcat 960
atcatgtatc aacgccagca gctccctctg ccctatgaac agcttaagca cttttaccga 1020
aaaccttctc cccaggcaga ggagatgtg aagaagaaac ctcgggccac cactgagggtg 1080
agcagcagga aatgccaaca agccctggca gaactggaga gtgtcctcag ccacctggag 1140
gacttctttg caggacact agtaccgca gtgctgattc tcttggggg caatgcccta 1200
agccccaagg agttctatga actcgacttg tctctgtg cccctacag cgtggaccag 1260
agcctgagca cagcagcttg tttgcgccg ctcttccgag ccatattcat ggctgatgcc 1320
tttagcgagc ttcaggctcc tccactcatg ggcaccgtcg tcatggcaca gggacaccgc 1380

aactgtggag aagattgggt tcgacccaag ctcaactatc gagtgcccag ccggggccat 1440
aaactgactg tgaccctgtc atgtggcaga ccttccatcc gaaccacggc ttgggaagac 1500
tacatttgggt tccaggcacc agtgacattt aaaggcttcc gcgagtgaat gagtgcttct 1560
taatcctaaa aacacaatgg ctgaattatc tttctccatg tggcgtgaa tcacccatct 1620
ggtttggagc tagagttgct tcctgggtgag agaggaagca actctccttc tggttgtctg 1680
cctccccctca gatttctga taggctgatg gcatgtggct gtgactgtga ctgtaatcat 1740
tgctgaacaa catctctttg aatcaaaggt tgattttccc agagggtgct gggtcaggca 1800
tttctattag gagtggaaa gcaaaaatgg gtccatagac actctatgga ggtgtccctt 1860
tctgctcttt gctgtgtcct ttcagaattt ttaccaggaa cataatgtgg atgtgactta 1920
tgaacttaaa tataaaataa atagattctt attaaaaa 1958

<210> 4

<211> 1436

<212> DNA

<213> Homo sapiens

<220>

<223> nb1a24350

<400> 4

agtccgggtg gtttcttccg accgaccgtc agcactcgac aaataactga gcagctgctg 60
gggcggggaa caccgcgggg acaggccctc actgtgagga taatgaccat accgggtcct 120
gggagacctc ctgaactgca gcggcaggga acccgacac ccagtgaatc tgagagcctc 180
acagctgccc gcctggctga ctcccatcag gtctgaagca cctcccgcac agtcatgggtg 240
gctgtttttg tcttctccag gagaaatgaa tggcactggc aacctgggac tcgtgcctgt 300
tttctgaag ccatgtgtac ttggcttctg gaccgtggcg cacctgaccc cagaaggcgg 360
tgcacttact gtaaggctga tgggccttag agaacacctc cccagcgcct acgcgcaatc 420
aggaccgcgg acgcctcatg tctgcctggg aggtctccaa agggccaaac actcccggac 480
tcggccctgc aggagtcatt tgctgtagac catccccag tgccacatac cactggagaa 540
agctgagtc agaggagctc aaactgaaa acacaatctc tctggagggt caaggcctgg 600
cagggcagcc tgaatggaat ccaacgttac ctgtgactaa gagccaactg ggagtgaac 660
aagggtcctc tgggtctcct ggatgacggg agatgcgcgc ctcactgtgt gatgtcaaga 720
accactgctg ggcctaccct gagcaggagg caggagcgg cactgtcatg cttgttgctg 780
gagccagcaa aggatgagc tatgcctcag cttccgctcc gctccactca gtgctggcct 840
catcgcccca cccagggggc agaactctcc ccaggagccc acggtgctgg gcagaggcag 900
aggccacttg ggcggtcagc ccagagctgg gtgggcccgg ccagcgggac tttgcggcct 960
ccccaccctc cggatctcct gatcaggcgt aaccaaccc gggcagctcc ttcggctcca 1020
ccatccagag acaagctgac ttccgataat gactttattt taacatattt aattacagac 1080
ataaaatagc tggggagggg ggtgagcccc agcctagccc caccatgggg ctataggagg 1140
ggaggcgcag gcggggcccc cctgctgacc ctctctctgg ggtcttctt atggcggggc 1200
cctattgctt gagtggggga ggagccatgc aaatgagggg ggcagggcag cactcggcc 1260
ccacccacc caggagcgg cctccccaca gaatcccag gctgtgcccc cagccccagc 1320
tgctccacct cttcttctc tgtccaggga gcagaccctc tggccagccc ctgactctgc 1380
ccctaccccc tctgcaaac taaaggggaa taaatacaaa ctttacaag taaaaa 1436

<210> 5
<211> 3062
<212> DNA
<213> Homo sapiens

<220>
<223> nbla23701

<400> 5
gagaggcggg cgcctaccag ccggcagctc cggagctgcc cgcgccatgt ccgcgcacaa 60
tcggggcacc gagctcggta aggggcccgc ggggctcccc atcccccttc cctcgcgttc 120
agcgccgcgg ggactagcgc ggggcctgct gccgccaggt gccctggctg tgggtccccg 180
aggggttttc gctggggcgg gaagcagtggt cgtctgggtca gccctcacc caagtaaagg 240
ccgaacccgg cacgttcgcg ccgttgtctt ttgcacctaa gcttttactc tggatgcgg 300
aaggagtagg aaagggttag attattatct tcctgccttt tcgttcactc tagctcgtg 360
gttggaacac ccaacaaccc aaaaaacaaa acccaaaaca aacaaccccc aagcaggtaa 420
aaacagataa aaaccttctt tctcctcctt ttaatagaat acttgtgtaa tttaatgcag 480
tatttccgta gataatttta accgtaacct tgaagtggcc gtgctcgtg aaaagttgtc 540
agccgtctgt gtcaaaaatg taacactgca gattcatggg attttagagt taaaaagatt 600
tgtaaagta cctgtattat ttcccagttt tcatcttttt ttatattgtt caaatactgg 660
caagaaacct tagttcagat ttcttttttt ttttttttta ttgatcattc ttgggtgttt 720
ctcgcagagg gggatttggc agggtcatac gacagtagtg gaggaagggt cagctgataa 780
acaagtgaac aaaggtctct ggttttccta ggcagaggac cctgcggcct tccgcagtg 840
ttgtgtccct gggtaactta gattagggag tggtagtgac tcttaacgag catgctgcct 900
tcaagcatct gttaacaaa gcacatcttg caccgccctt aatccattta accctgagt 960
gacacagcac atgtttcaga gagcacaggg ttggggataa ggtcacagat caacaggatc 1020
ccaaggcaga agagaatttt tcttcagatt tcttaacatg tgaataattt ataattcaaa 1080
cagcaaaacc atgatcaaga gaaggtttta gcgtctcgtt taagtattat agcttggata 1140
tctgtgtatc caggatcttt aacttcttac ctgtgtgact tcggacaaat taataacttt 1200
gcgttaagt ttcttcactt gtaaaatggt tatttttagt gtagttacct tataaggccg 1260
ttaggagatt aataggata catgtaaagt agtttggat atttgtgaca cctagtaagt 1320
cttcagtata gatagtatta gtatatggag ttatggtttt aggggctaatt ttgagaaaa 1380
ttggctgtaa attatatgta acacatacag gtaggtcctt ttcgccctcc ttaaaagtga 1440
ctggtactta aacagtctgc acttccaaga ggtgttctg attttttgtc gaatggtaag 1500
agagtaaatc tatcatttta aagacagttg atttactaac ctggttgatt ttgttttagt 1560
cactgtctc tagctgatta tgttttaaac tctagtccta tctctggaac gtggtcttta 1620
gtaataacgg cattatttct tagattggaa tacccttgaa ggtggtggat atggggcagg 1680
tttgggggtg tgtcttacct gggatttccc aggaatatga ccatgtgact atgcatacat 1740
caaggatgtg ccctaaattt cccaaaactt agacatttta aatttttctt tcaaaaaaca 1800
taattgaacc atttttaaat ttatttattt gcagtaatta gaatcaatca ctccattca 1860
ttgttgaaa agtaatagac ataaataatt gccaggtaga acaatagtaa atgtggtttt 1920
tatgcagcta tcgaaatgat catagctttg tatttattat cttatttgtt aaaatcagat 1980
tttttctctt cacgggtatt aatccttaat ccaaacaggt ttaaaactgaa atgctaaaat 2040
aagttatttg aattaggtac tagggaaaaa aatctttcag tattaattta tgcagtatat 2100
taactgatga tttttaaaat agttttctaa ttgaaagtct ttttaataaa catcgttaact 2160

```

aatttctaaa ataaattaac atttttgctt cccttttctt attacaaaag gaattcatgg 2220
ttattgtaaa aattctagaa aatacagtta gcacaaaaat gttgtaatat tattactagt 2280
ccaatcactg ttatttatga tttgggtgat gtacttctag ttcattggact taaaaaaca 2340
ttgagttcct ttgagactaa acctgaccct catgattaaa aagtctttta ggaaaacatt 2400
ggcatttgga tgtatgaaag atgttttcca aatagggaat gtaccctcta gctttcatat 2460
tagaggatgg ggcccagcat tctgagtttt aacaaatcct gtgggtagta ctgaagcata 2520
cccaagtttg agaaccaatg gcttaatgat ctccaaggta ctatcaagtt ttgtacctag 2580
actattatgc cctatatagt ctattaaaat gtacagatat tcttctatct tattagatgc 2640
cacttaacta ttgcctaaaa tgcagggtgc acgtgggtag tgatctttct tttgttact 2700
gatgtgtccc aagtacctag aatagtgttt ggtacacaga aggccctcaa aaatgtcttg 2760
aggctgggca tgggtggctca tgcctatagt cctggcactt tgggaggctc aaggcagccg 2820
gatcacttga gatcagaagt tggagaccag cctggccaac atggcaaaac cctatctctg 2880
ctaaaaatac aaaaattagc tgggcatagt ggcgcatgcc tgtagtccca gctacttggg 2940
aggctgaggt acgagaatcg cttgaacca gagagtggag gttgcagtga gctggaattg 3000
tgccactgca ctccattggg caacagactg gagacagact gtgtctcaaa aaaagataaa 3060
aa
3062

```

<210> 6

<211> 2900

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23890

<400> 6

```

agcgccgagg cggtagcttc agcctgcaat gagaggaacc cgggagagcc cccgggagcc 60
agcgaagagc ttggctgctg cgtccagggc tgctgctgcc gccgcggctg cttgaaactc 120
ctcaaagttg agagccggct agagggtgcc gcccgccggg agccggaggg aaaggaagtc 180
ggaaggtgca agagtacag acacggacag acggacgcgc agacctcgg aaggcactgc 240
gtaggcagcc tccccggagc ccacgaggct cccagcacc gttcactggt gggaggctga 300
gccggtggaa aagacaccgg gaagagactc agaggcgacc ataatgtcgt tacgtgtaca 360
cactctgccc accctgcttg gagccgtcgt cagaccgggc tgcagggagc tgctgtgttt 420
gctgatgatc acagtactg tgggccctgg tgctctggg gtgtgcccc cgccttgcat 480
ctgtgccact gacatcgtca gctgcaccaa caaaaacctg tccaaggtgc ctgggaacct 540
tttcagactg attaagagac tggacctgag ttataacaga attgggcttc tggattctga 600
gtggattcca gtatcgtttg caaagctgaa caccctaatt cttcgtcata acaacatcac 660
cagcatttcc acgggcagtt ttccacaac tccaaatttg aagtgtcttg acttatcgtc 720
caataagctg aagacggtga gaaatgctgt attccaagag ttgaaggttc tgggaagtgc 780
tctgctttac aacaatcaca tatcctatct cgatccttca gcgtttggag ggctctccca 840
gttcagaaaa ctctacttaa gtggaaattt tctcacacag tttccgatgg atttgtatgt 900
tgggaaggttc aagctggcag aactgatgtt tttagatgtt tcttataacc gaattccttc 960
catgccaatg caccacataa atttagtgcc agggaaacag ctgagaggca tctaccttca 1020
tggaaacca tttgtctgtg actgttcctt gtactccttg ctggtctttt ggtatcgtag 1080
gcactttagc tcaagtatgg attttaagaa cgattacacc tgtgcgctgt ggtctgactc 1140

```

caggcactcg cgtcaggtag ttctgtctca ggatagcttt atgaattgct ctgacagcat 1200
 catcaatggt tcctttcgtg cgcttggctt tattcatgag gctcaggtag gggaaagact 1260
 gatgggtccac tgtgacagca agacaggtaa tgcaaatagc gatttcatct ggggtgggtcc 1320
 agataacaga ctgctagagc cggataaaga gatggaaaac tttacgtgt ttcacaatgg 1380
 aagtcgtggt atagaaagcc ctctgtttga ggatgctgga gtgtattctt gtatcgcaat 1440
 gaataagcaa cgcctgttaa atgaaactgt ggacgtcaca ataaatgtga gcaatttcac 1500
 tgtaagcaga tcccatgctc atgaggcatt taacacagct tttaccactc ttgctgcttg 1560
 cgtggccagt atcgttttgg tacttttga cctctatctg actccatgcc cctgcaagtg 1620
 taaaaccaag agacagaaaa atatgctaca ccaaagcaat gccattcat cgattctcag 1680
 tcctggcccc gctagttagt cctccgctga tgaacggaag gcagggtcag gtaaaagagt 1740
 ggtgtttttg gaacccctga aggatactgc agcaggggcag aacgggaaag tcaggctctt 1800
 tcccagcgag gcagttagat ctgagggcatt cctaaagtcc acgaggggga aatctgactc 1860
 agattcagtc aattcagtggt tttctgacac accttttgg gcgtccactt aatttgtgcc 1920
 tatatttga tgatgtcata attaatctg ttcataattt actttgtgtg tggctctgaa 1980
 aataaacagc aggacagaaa ttgtgttgtt ttgttcttg aaatacaacc aaattctctt 2040
 aaaaatgatt gtaggaaatg aggtaaagta cttcagttcc tcaatgtgcc atagaaagat 2100
 ggggttgttt tccaaagttt aagttctaga tcacaatatc ttagctttta gcactattgg 2160
 taatttcaga gtagggccaa aggtgatag actcccatg tccctttatt taggatattg 2220
 aaagaaaaaa taaactttat gtattagtgt cttttaaaaa tagactttgc taacttacta 2280
 gtaccagagt tattttaaag aaaaacacta gtgtccaatt tcatttttaa aagatgtaga 2340
 aagaagaatc aagcatcaat taattataaa gcctaaagca aagttagatt tgggggttat 2400
 tcagccaaaa ttaccgtttt agaccagaat gaatagacta cactgataaa atgtactgga 2460
 taatgccaca tcctatatgg tggtatagaa atagtccaag gaaagtacat ttgtttgcct 2520
 gtcttttcat tttgtacatt ctcccatc tgtattcttg tacaaaagat ctcatgaaa 2580
 atttaagtc atcataattt gttgccataa atatgtaagt gtcaatacca aaatgtctga 2640
 gtaacttctt aaatccctgt tctagcaaac taatattggt tcatgtgctt gtgtatatgt 2700
 aaatcttaaa ttaagtgaac tattaaatag accctactgt actgtgcttt ggacatttga 2760
 attaatgtaa atatatgtaa tctgtgactt gatattttgt tttatttggc tatttaaaaa 2820
 cataaatcta aaatgtctta tgttatcaga ttatgctatt ttgtataaag caccactgat 2880
 agcaaatctc tctccaaaaa 2900

<210> 7

<211> 2708

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21650

<400> 7

atccaaaaga ttatcatttc aacatgcaat cctattttta aaataactag tgaggtacct 60
 gacaaaaaaa aatccctttt cataactaagt ccagaagatc tttgtgtatt ttatactcat 120
 aggacatctg agtttggatg ttaccttttt attggaaata tgggatctgt acttagattt 180
 cactgaattt acattgaaaa ggtaggttca cataaccaag ttgtctcaca cgttcctaaa 240
 tgttttctgg taactggatg gagtatcagt ttttatattt atctttgcat tagctaaaaa 300


```

acaaattaat agttcagggtc ctcagccgca cacaggcagt tttctccacg gtccaaattg 360
ttgccgaat tcaccagac cccgtgtcc tccgttttt catgcagaca ttcaaacaac 420
tgctccctt ctcctggca cccctctgg caccctcacc ccatcgccag cagcctccaa 480
accagtttcc ctcctgtcct catctcagcc acccatgact cacacacaca tctgtctccc 540
ctggccact tttcacctgg tcctcataat ctatgcataa acattaacgt accacagggtc 600
aatctgcata ctgattactt ctgctctggt caaattcttg ctttcaggat caggaggctt 660
tctccccaca ccaaactggg cctgaggaaa tagtgtcttg tcttctgtc acccctcccg 720
tagttgcatg tctaatagaga caaggggtgt ctcagggtgaa gcaggacagg gaggatgcc 780
gcacttgggt ggtagagggt tgaggagtgc ctgttggggg atgtgttggg gaaggaggac 840
ttttcacata tggtcattg tgcgggatg atttcgttgt taaataagca cctacaggat 900
gatttcacat tccatacttc taagttttta taatttaa tctttccgcc aggttgggtt 960
ttttttttt tccaaacttt aaatctgttg ctagaattgg tttgatttac ctaatcctgc 1020
ccctgagatt tagccctcacc cctgagagcc cctcagagc caccacagc caggacacct 1080
ctgtggcct ccccttcccc agccttccaa ctgtggcag gccccggct ctggcctccc 1140
cctatatggg aatgagccag ctgcaccgt gctgacagt gctgggataa tctccctga 1200
gctgttccaa ggattagtc tgctgccctg tgcccagctc ccacacaacg gggtttcggg 1260
gctgtggacc ctgtgccagg aaaggaagg cgcagctcct gcaatgcgga gcagccaggg 1320
cagtgggcac caggttttag cctcccttc tcacctaca gagggcaggc ccttcagctc 1380
cattctctc caaggctgca gagggggcag gaattggggg tgacaggaga gctgtaagg 1440
ctccagtggg tcattctggg cccagagatg ggtgctgaag ctcccacgcc tgctgtgaa 1500
aatggagtcc tctctcacct gggagagcca ggtgctgccc cgagaaggat gcatttatgg 1560
cttcatgaag tctttcctga ccccgatgc tgctgactat aggtagtct gagcaaatct 1620
gggggagcct catcttggca tgagaaagag atggcttctt ctaagccac tggccgtgat 1680
cccaggatta taacacattc tggctcaagt ccagactatt tgtagaacac aggagatcct 1740
ccatgagagg tagtataata tagaggatat gtgtgcttac taagaggctg cctgtctgac 1800
cttgacaag tctttttat ttatttattt atttttata gagacaaagt ctcactatgt 1860
tgctcaggct ggtcttgaac tcttggcctc aagcgatcct cccaccttag cctcccaaag 1920
agttgggatt atagacatga gccactgcac ctggccgacc ttgggcaagt tcttaaacc 1980
ttcaaagcct cattttctc caatcataaa agggaaagat ggtaatat tccccccaa 2040
attcttgtaa gtattaaaca ttgtatatgt attttgaaca cgattaagct ctaaacactt 2100
gttaggaagc aggagtagca tttgaaacaa acagctcttt tcccacagg cggatgccct 2160
cacagaattg agattatgta cgtaaaacac cagggtccta acccggcaca gagcaggagg 2220
gctaagcgtg acatccagca cgtggtcagt ggaatccagt attcctacc acctctctag 2280
tctccctcc acccctctcc ctttcagagg caccaagctg ctgtgtgtct tgtctattcc 2340
cactccctgc ctgactgaac attttctcca cctcctgatc atcagcagca gaaactggct 2400
gctcttctc ctgggtagac agccagactg tatttcccag ctggccctgc agtgagatgt 2460
ggccatcgga gccagcattg gccaatggac tctgcatggg agtgacgcat gctgcctcca 2520
ggcttgtccc taaaacctcc cacgtgtcct ccgctgtctc tcccacttc caaggagcac 2580
ggcaattgtg gaagaccag attagtgtg gcagaacat agatgggagg aacctgggtc 2640
cctgacttaa agtatcatg atttgatgt tcccttagt agaaataaac ttccattgtg 2700
tttaaaaa
2708

```

<210> 8

<211> 2312

<212> DNA

<213> Homo sapiens

<220>

<223> nb1a22094

<400> 8

```
gctttttcaa tttattgata tggtttaaatt gctccacag aattgtgtga gagagcaata 60
tgtcattgat tgaagggtg gaaacaaact ggtagtaatg gtcaggattt ccccttttca 120
gaactttggt gcatttgaag tgcctgacaa tgtagtccag cttccctcct gttttaccta 180
gagggctgga gatatgaggg cccaaagggg ccacaactgt tatcttaagt ggactgaaag 240
gaagacgaaa ttaaaactag cttctactcc actttagga aatgtgcttt taatctttgg 300
tgtagccag cttttagga acaaaagtat cctatgttg caactgcagt aaaaaacag 360
ttatggagag tatggaggag agccagtaac tcctaaaggt cttgttcctt tgacttttct 420
tctcaacaa acatgagata ttcataaatt gcaatggcaa acgtttttta gggtcgcaa 480
tatgaaatg taaagcagtt ttaagatgat taatattaaa ataggccaag tgcggtggct 540
cacaactgta attccagcac tttagagacc caaagtggga ggatcactg gcctccgaag 600
ttcaagacca acctgggcaa cacagatgtc atctctagaa aaaaaaaaaa tttttttttt 660

taattggccg ggcatgggtg catgtgcctg tggctcctag tactcgggag gcttaaagcc 720
gggaggcaga ggttgccgtg ggccgggac gcgccactgc actacagcct gaccgacaaa 780
gcaagactca gtctcaaaaa aaaaaaaaaacc aaccaacat tcaactaagt catgtaagca 840
aatctaccct ggttggtcca aattgggatt caaccacttt agaagtcttg ttagacattt 900
tttcagtga tacataatag ttgtatgtac ttaccgagca tgtgatattg atatgtgcat 960
acaatatata atgatcacat cagaataact ggaatatcca tcacctcaa caatgatcat 1020
ttctaaaaga acattccaaa gctgctcttt tagctgtttt gaaatataca ataaattatt 1080
aattgttga aaacttttga aagttatctt taagctgctt ttttgacaa gaggtatata 1140
attgcaatac agatggatat taacttcac tgtatatctt attaaagctg gtaaaatttt 1200
tttaaaggat ctaaaatttt gccatgtaag gaacttaagc atctttatgt ttaattgcaa 1260
aatttttata ttccaatat aaaaatttct cttcaagtat ttctgcatt gccatttttt 1320
agcatgtttg gctattctgc tatgtaacct acctagtgt actcgtgga gacagtccgt 1380
ctacaggcat gtctgatagg cacaagttct ttattcacac aaaactaaca tatagagtag 1440
aatttatggg atgatgatgt cgtttgggat agaggatatg aaaaaactgc attatgtcca 1500
aaactttact acagtggagc cagtcaacat gtgtacaact taacaccta caaaaatggc 1560
tccaaaaagt atacatagca ctatttctgt tcatccatc tgaatggaaa attttactta 1620
gctggtaatt ctcaaatgt tttgttgact cagggaagg gaaacatatt ttacatgcac 1680
agaatgcttc agaacttttc tgctcggtc ccaatctgcc atgtaggttg ataataaag 1740
tcctaaagta cagtttagtt ctttgggcct acaggacac cttgttgact aactggcttc 1800
agccaatttt tttcagtica cacacaagat caatttcttt gtcagcaaat accttttaga 1860
aaaagtacac tacaacaca cttggaaaac attttattaa gtactgtata aacagctatt 1920
tagataataa ttgcatagaa ctataccaag gtaattgtgt cttaaggaa caactaccaa 1980
gtgaacaaga tgagcaaagt cctctattat acaagatttc cttcggtgga acattatggt 2040
gacaaagcag cgtaatgagc tcttaagcag attgatTTTT atcaactgg acatatcaga 2100
attccttatg tataagagaa atatgcacat gctccttca agaaaagagt gataaccac 2160
catggaatta cctccagttt aaacatgtac tcttgactgc caaaaatata gagatatgtt 2220
aagcaagata aagcagcaga acacgttta aaatatgttg atctctttct gtaatctaca 2280
tgtaatatatt aaatgttctt atccttgaaa aa 2312
```

<210> 9

<211> 2110

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22739

<400> 9

tagctttatc actttttctca ttccatatga ttgtttcttt agttaactag cccttgaaaa 60
cttcatttta ggacttattt gttttaatgt acagatgtgg gaaaaccaca caaattccgc 120
agtttattct ggatgattct ctgagtggac cacctgagaa ggtagccaac atcatctgta 180
cccaaccccg acgaatctct gcaatctctg ttgctgaacg cgttgctaaa gaaagagcag 240
agaggggtggg tctgaccgtg ggataaccaga ttcggttaga aagtgtcaag gtttgtatgc 300
tctgcttatt tcctggtaac agaaatttat ggtttttagg tataaaaagt tttgggggtt 360

aggagattca tgggcaattt gggatatata ctttcaggtt atttttaaat taatgattac 420
ctttggtaat catttattta aatatttaga aatatttaga aatattttgg tataagaact 480
cttatggcca ggcgcggtgg ctacacactg taatcccagc actttgagag gccaaaggcag 540
gtggatcacc tgaggtcggg agttcgagac cagcctgacc aacatggaga aaccccatct 600
ctactaaaaa taaaaaatt agccgagtgt ggtggcacac gcctgtaatc ccagctactc 660
gggagtctga ggcaggagaa tcccttgaac ctgggagacg gaagttgcaa tgagccgaga 720
ttgcgccatt gcactccagc ctgggcaaaa agaggaaaat tctgtctcaa aaaaaaaaaa 780
aacaacaaaa ctcttatttg gttgtactaa atttcctctg taaagctttt tattttttat 840
tggcagaagt catctagtaa agactgtttt gctcttgaac ttgggacata atccatttaa 900
ccaaataagg agcagacaga ttgagaactg ttttcattat tcaactgttt ttaatgcttt 960
ttatgaaaaa cttacatttg tgatatgaag tagaaaggct tttattactg tccctggcaa 1020
gaaactatgt ttagtatggt ttccatttaa atggaactgc tgggtgttcc aatatttttt 1080
atcactatcc attcaaaatg gctttccagt aatgtttcct ttttttgaaa attttattaa 1140
tgattttat tgcccttca tgtgtaagtc ctacagccacc agactgttat actgcaccac 1200
gggagtgtg ctgagaaggc tagaaggaga tacagctcta caaggagttt cccatatcat 1260
tgttgatgaa gttcatgaga ggacagaaga aaggtaaac aaagactttc ccagggaaca 1320
cacactcacc tgaattgaag gcatggcaga aaaaattgtt ttctagtctc aattcagttt 1380
catgcagcta gtaattgtaa tttgccacaa ggaaggccta tgtagagaa gagcaactgc 1440
tttcttgatc tccagggtct gtaacactaa aaaggacagc acatgctcat cacttattag 1500
atggagtcac cctgttaggt tagaaggat acttcacacc atcctgggca ttatgctaag 1560
ttgaataacc tacttagtag aaataacaga tgtcatgcat gctgtggctg aatgtatctt 1620
cttccttggt tatttggcca ttcagtcctg acattgattc atgtatttat tgagcctgca 1680
ttaaatgcca agtgatatat tagttgctgg ggatacagtg atgaacaagc atgtatggct 1740
ccccctcatc tcttacagtc cagtagaaaa aacaaataat gaacaagtaa acaagcaa 1800
gattgtaaat tggaataagc actatgaagg aataaacggc atgctgtgtt tggagggaga 1860
gacctataga tgctcaaaga tcatatctct gtaagatgac aatttaaatt caaaactgaa 1920
gtatggccgg gcgcaatggc tcacacccat aatccctgca ctttgggagg ccaagggtgg 1980
aggatcgctt gagctcagga gttggagccc cacctgggca acatagttag accatgttcc 2040

cacgaaaagt aaaaaaaaca aaacaaaaca aaaaatagcc agtagtcatt ctactgggga 2100
tacagaaaaa 2110

<210> 10

<211> 2416

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23525

<400> 10

tcactatggc ggttggagga acggcagtga tcacacgtcg gctgctggga agatctggat 60
tctcgittca ggtttcgggg tgggggtggg gagaaagggt cgatgatttc cttttttcgt. 120
cggttataga cggttacc tagtgccttc acaatcggtc agagctggat tcagattcct 180
gctcgccaac gccagcttg ggcaaggctc ctgttctttc tgtgtctcgg tttccatgtt 240
tgtaaaatgg tgataataat agtatctacc tcagagacgt gtactgtata atagtgcgta 300
taaggcacgt aatgtgaagc ctggcccttg aagatattag ctattgttat ggagataaat 360
aatacgcgta atagaatgag aaaaattata aattatataa attcgctaatt ttagtgccc 420
tttctgcat caacttcttt cctagaataa attaaagata aaatagatat accaattttt 480
accaatgaaa taatttgta tttgggaatt gcctcaaat agcagagatt gtaattttcc 540
tatattgaaa agttaataa aagggtgggg ggggggagtg caagaaagaa agagatggag 600
aacgagagcg agctggagat gaaccacatg cgatgagtag gccttggttg gatcctgaat 660
cgaacacacc aactgtaaaa atatgtttta gacgcacg gaaaattggg acacggattc 720
gatatttgat gttttttagg gaattgatgt cagttttttt aggcgtcaca gtagtattgt 780
gattatgttt tcaaattgtc cttttttgta gagacatacg aaaatattta cggattaaat 840
aatgtctggg attggcttct aaatacatta atgactagga tttgcttcaa aataatctca 900
gcggtagggg gaaatgggga ggggtataga tgaacaaaaa ttggccctaa attaataata 960
tttttttgct gagtgatagg cagtgggttg cgtatattaa tctgctttcc ttggtatacg 1020
tttaatttt tctataataa aatacagaag tcagatattc cggtagcctt gaaaaagtcg 1080
ggggtggggg ggagcagtg gtgggttat agatgaaaca agatggcctt cagttggtaa 1140
ttgttgaaag ctggatgatg gattcgtgta ggtttataat actatttctt tttattttca 1200
tccatttgaa attatattta aggaagtta aaaaacaaat ttgtcagaaa ttatacaaat 1260
gtacaataaa ttaaatttga aaatgtggcc acaagaaagg aaaaagaaac acttgtacat 1320
tatttatcag ctttggtgtc ctttgtgtgt gatgaaattg cattggctga ttagaagaa 1380
agccatatct catatctttt tattttatgt tctttcttgt cttttgttt gaccttctag 1440
gtcaccatca gaaaagctaa gtttgcgtga tagtgaggat caggagatct gatcctgatt 1500
gcagaacctt ccctgattac agaacttttg gtaagtgcct cccttctgtc ctcagttctc 1560
aaacaggata ataccacata accttcctaa ctgtccagga atattttgaa aattaataag 1620
ctcctatctg ggaaagtagt ctaaattctg agaagggaag ggtggagcta agtccattga 1680
tagttccagt atagaaagtg cataagcaac agagggttt gtaatcttac atccctgat 1740
aaaagatact acagtcaatc tcctgtagta gttccacagt tccatagatt acatttttcc 1800
ttggagcatc ctatatgcag catagttag tggtaagag caaatacttc ctgaatttaa 1860
atcctggctc tgccacttaa ctatgtgatc ttgggcaaga tatttactca ctttatacct 1920
aagttcctcg tatatgaaac agaggtgata ataatagttc ctacttcata ggattgttga 1980

gaggattaca tgtaaagtac caggacagtg catggcacat gtaagtattt gctttaataa 2040
 taattatggg tctgtagtc ctgataatct catgttttat ctacacattt acacctactt 2100
 ctaaaagcag tggatatatt tcttttggga attgtgtaaa aaaaaataa taattaatac 2160
 cgttggttct tctctcatt ttccagaagc agcagttacc actagaactg aattccgaaa 2220
 ttatgacttc tggcttgtct taacaatcta gaaagggttc aaatatattg atcatattta 2280
 tttatgaggg aatttccagg agctataatt ttagctagca gttcaaacca aatttataaa 2340
 taagcaaate ttttactga atattcagtc tgctaacagc ttttgatca ttctccttt 2400
 gtctcagact taaaaa 2416

<210> 11

<211> 1710

<212> DNA

<213> Homo sapiens

<220>

<223> nbla20226

<400> 11

taatgcttgc tagccagccc tcacttccta ctgtgcagcc cacagaccat taccaggcta 60
 tgacttgggt actggggacc cctgatttaa acaagagaaa tttattttct cacagttcca 120
 taggccagaa atccgagatc aagtttctgg tcaatttggg ttcttgtgag ggctctcctc 180
 ctggcttcta gacagccacc ttctctctgt gtctcacgt ggcctttctt cagtgcattg 240
 gtgtggggag agaaagagag agagagagag agagtgcagc aggttcctct tgttataaag 300
 tgaccaatgc aatttaatta ggactccacc tgtatgagct cagttaatct taattacctc 360
 ccacagaccc catctcccag tagtcacaca ggggttaggg cttcaatgta tgaatttggg 420
 gggaacacag ttcagtccat agcacttcat tttatttttt tctacattt aatcacctta 480
 ttgaattttc tgaatagcag ttatcactgc tggatatttt tcttactcgt gtatttatct 540
 gtttagtttt cactatcatg atttatctcc ccagagtaga atgcaaactc cattagacca 600
 ctattgtttc ttgttcatca tgatactccc agagcctaga acagtgccta gcacaaacag 660
 gacaccagaa aacatttgct tatgaagaga agagcttata ttctgtgaga gcttcaccag 720
 agcacatttt ctgaacactt cctaataacg tgacttctca tcagtacaag aaaaaccacc 780
 ccctggtgtt tcagaacagt tgttgagagg gaaaacagaa gtggagtatt tttgtcttca 840
 gctgttcatg catattctta ctttctctct agatgtctat tactgcatac acagagaata 900
 aagtgtgcca atctgacttc ctaactctaa ttgcaatcag gttgaaatga tgagtattc 960
 ttgtcccccg ttcttcagag gaggtacata tggcaggttg atcaatgttt aaatggaaac 1020
 gtgatctgtt atatagttag cccagcagtg aaactctctt gttagcagat tcatttgtgt 1080
 gtgtgtgggt cgggtggggg cggattctac cttatatatt tcccatactg tatttatctt 1140
 ctattataaa atatttctaa aataaaaaata gaacaatatt tctttgattt cttttgcatg 1200
 attattgata agactggcat tatcaaagaa gaaagcacat cagtgttaac aaggggagaat 1260
 cggatttaaa ttatggcaaa ttgagaaga aatgtgtaag ttttagtaga aagagttagt 1320
 aaaaaacata cagaaataca aaaggattga cattattttc accacaataa tggagagtca 1380
 ggggtgtcca tcttaggac atggaattgt aattgaaaaa aaacatgtaa acaaaatggg 1440
 cattagaggt agtgtcctta gtgtgctcta tattgggagg tctgaaggag gaatgagaat 1500
 gaggtttgcg cctcatacaa aatatgagat catagaggga gaatttgagt tatttataaa 1560
 agttaatttt aatctctgtg ctagatgggt gctctgaaaa atgcagacac attgcttcta 1620

ttctgggttaa actaagatag gtaataactg ttacacttat acatcatgtt tctcattcgt 1680
cattgttgct tggggaaaaa aaagcaaaaa 1710

<210> 12

<211> 1714

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22182

<400> 12

aattaacagt ataatgttcc accattcttt tcacactgaa tatcagtata actgactgcc 60
atccatccat tatatttata ctgtttaaaa tgtaacatgt gatagagact tttttaaatg 120
cagtgatcat agtttttacc catcttcatg aagccaacct tggaagcagg acatggatag 180
acagttacta tggatctttt tataggggat attatttttt ctagattatg tgtaacaaat 240
cattccataa atgagttcat acctgttca aaaatagcac aatatTTTTT ttatgttaga 300
tttacattat aacagacaaa gtgaagcaaa agattttgga attaagaaaa gtaaattgag 360
taacagttcc actcaatgcc tatcaaatat tacctttttc atataagatt cagaatcttt 420
caccacatg tgtccaaata gtgtctttta tttaaaactt taatagactg agttctacaa 480
aggaaaaaac cctttaatat aaaagtaaaa tttaacctca atttgcttcc atcctttaac 540
aggttcacta ccagtaacag gaattagttt ccctgtagaa acatcttata tataatgact 600
tatgaaggaa actcactaga aagttataat aacagcatcc catttcttcc aaggactgtg 660
ttttaatgta aatgttctct gctattatta aataggcccc tatttatgga tcagacaaga 720
tcattctgta tatttgttct ctttcatatt gaaatgtttt tgattgggga ggaggagat 780
ttacctaatg ctgtgtatat ataattattt ttgaacaaga agaaaacaca caaaaatgat 840
agtatcattc tagtttgaa gtatcactct ttaaatgaaa acagggtatt tattgtaatg 900
taaattcatgc tttatgcaaa gataatgtac caaacccatg agcagaaatc ccaccaggcc 960
tcacatggac cttaaactggg agccagaagg ctgttaggaa cccatgagca ttcttttccc 1020
atttcttgcc gttgattctg tctttgcatg gctgctttt tctttctcgg cagctagctc 1080
tctcccttgc tctattacc agaccatgtg gcctatggaa aatggcagcc aatggcatcc 1140
aagttcacct gtcacagttc caccacact gcatatttct gtcttttca gtccactcc 1200
caaattccca aagaagagat ttcacttacc cagtttggtc catccaata cagccagaag 1260
gcaaggccat gtatgtataa atttagtcac caaaaatgca tttctgtggg caactaagaa 1320
gggaagtggg tattgtgagc ttcgtagaca tcaccaaagg tgtctgctt tgtctggatc 1380
atcaagaaca aaggatttga agtaccattt tttaaaattt agattttgtg ccggcatgct 1440
ggctcacacc tgtaatccca gcactttggg aggctgaggt gggcggatca cctgaggtcg 1500
ggagttcaag accagcctga ccaacatgga gaaacctgt ctctactaaa aatacaaaat 1560
cagccaggct tgggtgtgca tgcatgtaat ccagctact caggaggctg aggcaggaga 1620
atctcttgaa ccaggaggt ggaggttggg gtgagctgag atcgctccat tgcactccag 1680
cctgggcaac gagagcaaaa ctacatctca aaaa 1714

<210> 13

<211> 1931

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23256

<400> 13

```
cttaaattgtc agcatgtgtt catttttaac aggggtcgat tttctaattcc agccattgt 60
atttaaattgt gaaatagata ttttagata gttcatctt tggcatctt agcaaatgaa 120
ctagctacag gagtataact tttgatgata tttgctatc tgaggtttaa gcgtttaatt 180
agattaaaat tcacccttca aatggagaac tcagaataag taaaatgatc agagatgact 240
ttgtagcttc ccacctctaa taatttatc cactgttggt tatagtaatg atattgggta 300
gtggtttggg ggcaggagat tactttttac caggttatca tttcagtatg tgttctgaag 360
ctgatgtctt ctgataccat aatttttaca tataaatgag taaagaagaa atgtaatcag 420
aactgtgttt gaatgcata ctttttagtt ttgcaaaata gcatggatgt tgtaagagaa 480
ctggaaattt aggggaagtt ttaggaattc tgaatcctt ctaggtcct ctcagctccc 540
cattggtttc tctatgtagc caggtaaagc catattttgt gtatgacatc agaaattgct 600
tgtcattttg aaatttatgt ctacatttgt cttcccagg gctcatatat tttaaaggta 660
tacattttta tttttagaat caagtattga tttttttgtg aataaattac tataatgatg 720
ccaattaatt gaaatcatt tctactatta taggatgagt gaaacttaca gatgaattta 780
aagtttcatt ctagtaattt tttatttaaa aaggattaga gattttataa tctgtcctac 840
agttatcatt ttigaacca atcctttgtg tattaaagaa tattatttaa aattccattt 900
ttgaaaagct catgtcattg ctaaaggttt tgagattcta caggaagacc ttgtagacct 960
ttttgtcacc ctttcgaaat tgaccagtat tctttcta tgaagctttt accttttaag 1020
taattttgac aacaatattt gttctggctg ttactataca atattgaata aattatagta 1080
ggagggtgat ctaagattat ttctttctga aataatgata gcttagaaac ttgttaaaca 1140
gagccttggg aatgtatggg aacttgaagt atatgcattt ggaaaacatt taatgaactt 1200
ttttttttaa tgtagatatt aaaaattatt ttttctaaaa ttaatgttat actaaatca 1260
tagtttgaat tgctgacata ttaattgtgg attaaataat ctatatctta cagactgaat 1320
catattcatg ttgttgatgt ctttagaac agagaatggg taatgtgtag attaactata 1380
gagacattac cagtgtacat aaaagctatt aaaaatctta atattgtaat ttagcactgt 1440
attccctcta cctagtattt tttcctcttc agctttcagc cattttctgt atactttagt 1500
ttttagtttt tggcatcccc tctggtttga aacctatctc tctaccttcc taacattttc 1560
tatttagttt aaatatgtct ttatgcagtt atacaataac tctttgccct tgaggactga 1620
atggtttcct ttcctataga agagttgttt tcaagctttt tttctcttgt ctccacattc 1680
atataagcag tctgctctga tcagtagaat ttctcggata gaggtgatca ctggaagaat 1740
gagggaggga ggggtgtagt ttttaataaaa actctctaga gggtcttctg tcccctccac 1800
tgagaatcac acttgagagc ccactcttcc tataagattt atatctgacc tccttgacc 1860
gtcactctgc taaacagaaa cgttctttca tgttttgaat gtgggaagga caagcaactt 1920
gtagacaaaa a 1931
```

<210> 14

<211> 2064

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21297

<400> 14

acattgatgg aaatgtatgg aaagcataca gttggaccga gaaactaatt ctcagagaaa 60
ataacttgac tgaattacac aaggattcat ttgaaggcct gctatccctc cagtatttag 120
atttatcctg caataaaata cagtctattg aaagacatac atttgaacca ctaccatttt 180
tgaagtttat aaatcttagt tgcaatgtaa ttacagaact cagctttgga acatttcagg 240
cctggcacgg aatgcagttt ttacataagt taattctcaa tcacaatcct ctgacaactg 300
ttgaagatcc gtatctcttt aaattgccag cattaaaata tctagacatg ggaacaacgc 360
tagtcccact tacaacactt aagaacattc tcatgatgac tgttgaactg gaaaaactct 420
gaagaagcat cggtagggaa tccagaagga gcgttcatga aggtgttaca agcccggag 480
aactacacaa gcactgagct gattgttgag ccagaggagc cctcagacag cagtggcatc 540
aacttgtcag gctttgggag tgagcagcta gacaccaatg acgagagtga ttttatcagt 600
acactaagtt acatcttgcc ttatttctca gcggtaaacc tagatgtgaa atcactgtta 660
ctaccgttaa ttaaactgcc aaccacaggt gagagacaga tggaaagact taaccacgc 720
tatttccatt ttagaaagt caaaggctag agttacaaat acgaagacgt ctaaaccaat 780
cgtacatgcc agaaaaaaat accgctttca caaaactcgc tcccacgtga cccacagaac 840
acccaaagtc aaaaagagtc caaaggtcag aaagaaaagt tatctgagta gactgatgct 900
cgcaaacagg ctctcattct ctgcagcgaa gagcctcata aattccctt cacaaggggc 960
ttttcatcc ttaggagacc tgagtcctca agaaaaccct tttctggaag tatctgctcc 1020
ttcagaacat tttatagaaa agaataatac aaacacaca actgcaagaa atgccttga 1080
agaaaatgat tttatggaaa acactaacat gccagaagga accatctctg aaacacaaa 1140
ctacaatcat cctcctgagg cagattccgc tgggactgca ttcaacttag ggccaactgt 1200
taaacaaact gagacaaaat gggaatacaa caacgtgggc actgacctgt ccccgagcc 1260
caaaagcttc aattacccat tgctctcgtc ccaggtgat cagtttgaaa ttcagctaac 1320
ccagcagcta cagtccctta tcccaacaa caatgtgaga aggtcattg ctcatgttat 1380
ccggaccttg aagatggact gctctggggc ccatgtgcaa gtgacctgtg ccaagctcat 1440
ctccaggaca ggccacctga tgaagcttct cagtgggcag caggaagtaa aggcattcca 1500
gatagaatgg gatacggacc aatggaagat tgagaactac attaatgaga gcacagaagc 1560
ccagagtga cagaaagaga agtcgcttga gctcaaaaaa gaagttccag gatattggcta 1620
tactgacaaa ctcatcttgg cattaattgt tactggaata ctaacgattt tgattatact 1680
tttctgcctc attgtgatat gttgtcaccg aaggtcatta caagaagatg aagaaggatt 1740
ctcaaggggc attttcagat ttctgccacg gaggggatgc tcttcgcgaa gggagagtca 1800
ggatggactt tctcatttg gacagccgct ctggtttaa gatatgtaca aacctctcag 1860
tgccacaaga ataaataatc atgcatggaa gctgcacaag aagtcattcta atgaggacaa 1920
gatcctcaac agggaccctg gggacagcga agcccaacg gaggaggagg agagtgaagc 1980
cctgccatag gaggagaaca cagcccacct caggcctcct gcaaaaatac atagaataaa 2040
caacaacagt tactaaatga aaaa 2064

<210> 15

<211> 1650

<212> DNA

<213> Homo sapiens

<220>

<223> nbla20787

<400> 15

atttactaag agtaattggg tttaggatgt tggaaathtt tagcttgggg gaaaaaacat 60
tcttatgaag gagatagggt ctcttcigag tttgtcataa tatagattgg tgtctttgga 120
aatggccac aattttaaga attcaattat gcatataaaa tgataattat tggaattcca 180
cagtaacaga tttaaacagt cttaaattgt ttatctcctt tactgtaatg tattgaaatt 240
tttagagaaa ttttagttgt taacatttta ttaagtgccg gtgtcagaat ataacaatt 300
atagtttctt atgaatgaca ggcctacagt tattattctg gattatttga tggaggacaa 360
acttacctgt atttgtagt caagctgtga aaataagggt gattacaaa gatgtgaaa 420
aaattttagt ctgtagactc agtaathtt tataatttac tgtaattctc atttgaacat 480
ggattaggta caatttataa attaatcaa gtcagggtct ttaggtatca ggtgccagag 540
agatatttaa cagatttccc tacctaaatt tatgtatatg tactgtctaa aacaatactt 600
ttttaaaaaa aaggaacagt tgggagaaaa taaatataat gaaaaattcc cagaggctag 660
cacttggaat ctaacacgta tgctattgta ttatccatta gttctgtaat atttaatttt 720
agattctttt atttttttta ttggcaaagc acaagggtgt gtataacagt gtcatttaga 780
gttttataga aagcttcaac ctgagttctg cgttataaag cctggagaaa gctaagctta 840
gaacataact tgctgaagta taattatctt ttgttagcag gaatttatgt gccagagggt 900
agagtctttc tggtagtgat tttttgagac caaggataaa aggatcgttt tgtaagacat 960
gccatggcaa tggctgggtg ggggacagtt tccgcccaag ctgggcctat tttatttttc 1020
ctcatacctt ctttcaaagt catttaggta ttggaagcct tatttccac gtagtaacac 1080
tttctggctt ttgcagtttc ttttttgtt tgggtttgtt ttttgcattg aatggggatc 1140
aaacaacccg aagaagaaca cattttgatc aagcaaatg ttgtcttcaa atttcagaag 1200
tttattttac agaaattaaa ttaagtagtt tgacatcctt ttctctgttt cacacatata 1260
ttaggttggt gcataagtaa ttgtggtttt tgccatgact ttatggcaa aacctgcaat 1320
tacttttgca ccaacttaac acatctatat acatataat atacgcgcac acacttggtc 1380
agaagttagt ttgtggcctt ggatttggtt tttcccttgg aatgggttct taactctggg 1440
attttagaag gttagaatat ttttcaaga gaacagtggg actcaaaaga atgaaagggt 1500
gtccctacat ttctgtatt catcacttaa aatttttaac tttccgaga actacaagta 1560
acattgaac catgtgctg ttgtacctta acaaaaaact cagtataac cagtatttag 1620
tctattaaaa atgctctttt tgaagaaaaa 1650

<210> 16

<211> 3050

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22284

<400> 16

gatgcggaag aaagagatgc tcggaaagtt ctaataaaat ggaaagatag catccctagc 60
attttttctt tgcttataga gatattccat gggatagcaa atcctgtgtc atggagatga 120

agtcaaaatt cctgattcca aaaggttttg agaaaacaaa gagggggaat gacgtaagaa 180
agataggcat gagcatgttg taactagggt agcacgtgtg ctcccagcc caggagcgac 240
caaatcctgt ggtggcgtca ggtgtgcagt ggagaggaat atagaggctg tatggcctcc 300
ctcagtgagg gcagggaag agggatcact ctgagagaac aaaaataggc cccaagttgc 360
taagcagtga ttgggaacct tcctttcctt ggcgagatg catgacattc cctaccgatc 420
cccagacaca gcctgtggga ctcttaggag aaatggtgat ttactgaata actgaccctg 480
tgccgagatg agtacaatga agtggagggt atgaactcaa atcgtcttcc agggccaggc 540
ggctgaccgg ggtgagcgtg gtggcccgct ggggaccatg gccgccctga cagccacacc 600
cacctggagc tgacttggtt ctggctgttg ctgccactgt gaaatctgta tctctctcca 660
tctctgtct actatccccg gccttgccag acagtgttct ttttcggaag aagtctagat 720
ttttgcatga aaaaactcaa tctttaaagg tcgactcaga acattttaag gaggcctcca 780
cttggtctga tgcagtcttg ctaattaaga actaaaggcc tctgacctt ctigtgtctc 840
atgctgtacg gcatctgaat gtctcgaccg agtccgagcc gtgcagctgt cctccacctg 900
cgaaagtaat gagaatccta tcacgggaca taaggatagg tctaaacagg gtccatgcc 960
agaaaacagt ggggtgctct cccaggctc tccctgtcc actaacctg gccttgccgg 1020
ctgccttcca ggctctgggg gaagagctcc tgacttctc cctggccacc ttggctccag 1080
ggctccccag agagcctctt ccctcccaa gtacctgaga aagatgagag aggcacgtgc 1140
tctgtggga aggtccagtg agcggttcaa gggcctggaa tctccctacg gccaaagtcta 1200
agggttctgg gattctgggc tttgtgggt ttgcttgctt gctgggaatg ggctttccct 1260
gtcccgccct gccccacctc gcctctgtct ctccagaagct ccagaacca gcagtacct 1320
gcaaaatgtg gcctctgatg ggggcttagg gtgggagatg gggagagcct acattgtctt 1380
ttgctccttg aaaactttta tagctcctat tttccagaga atggtgcttt gtgagcaaca 1440
tgcgagtaag agagaaatag gaggaagggg gtagggggc ggatgggaga agagtggctc 1500
gtttttacct ctactgcct tgacattttg tgaacgtgaa gcttaaacct tctgggctta 1560
caagaccag gggcacgtca gctccttaga tgggctcagc ctgacacata attcttaaac 1620
ctttcctgtt taagaaactt cttagaggctg tgtactctca ccaatcctct tcgagaattt 1680
gttcatgtgt atttcccat tatatggatg aggtcagga taacagcata gtggctacct 1740
tctactgagt tttgagggtc taataagtat gtttgtctga ggctgcacat gtgggtggct 1800
ctgtgtgtat gatccaaggg acaaatgac gatgtaggaa ccagcaagaa cggaatctgg 1860
gctgatgctt cagtctccac ctgggtgatg gctagcctcc cgccctccac caccgcatcc 1920
cacacgtgct gcgcactgtc ccggtgtctc ctggagaacc aaactggaga aaacctttct 1980
gagtatctct catagtacct ctctttaag aagatgtggt ttagagcatg tgtgcaatcc 2040
tgctctgta attaggaaac ggagcccgag gctttccatt gttggttgaa cccaggacag 2100
ctggtgctat tcacaggctg aagaactggg cagttcttac ttgggtctgt cctaggatgt 2160
ggaggaagtt caggactaac gctaggcaga gtagtgact cggtttacc agcctagggg 2220
cctctggatg ggaacactcc attccaagat ctgagcagag cagggttcc ttgcttgagg 2280
ctggaagcct ttgggaagag gccagctgg gacattccct gggcacctgt cttccgctga 2340
aggagcaag gtgccctctg ggactgacag ccatgacct ctgtgccatc ctcaatcctt 2400
gagccatata tcaagagtcc tctagagccg gatggtcctc aaaagtctgt ccaaggaatg 2460
ccaacgttca cgggctctg agaaacgacg caaatctctg agctggggac cacttgga 2520
accggcttag taacagtcct gatcttcgca agccagcttc ttctgcatct gaggggctcc 2580
tgccgcccag aggaggcaga cagatgtctt ctactgagt ttctaaccgc atgatgagac 2640
tcagaccttc cgctgcacta gaaaatctgc aacagtgtcc ctgagtcact tctccttagt 2700
gggcagactc gtgttagatt tgtggaacct agctctctga tttactcctt ttggaacc 2760
catggaattt catgtataag gctttcattt gtattttaag gttttctgt ttgtttgag 2820
tatatacatg gtgctcaata gcaacatctt agcagatgaa gcagtttatg attccactcc 2880

ctctgtatg acaggtagcc actatactga atcaaggtgc tgaactcaaa tcacaaaatt 2940
 ctggcttacc gatacaacaa ccaatacatc ttgttctgt aatgtaaaat ttgactcctt 3000
 actttataa cttattaaag ttaaaatgtc tgtgttttg caatcaaaaa 3050

<210> 17

<211> 1733

<212> DNA

<213> Homo sapiens

<220>

<223> nbla20123

<400> 17

gatacactga accccacgcc tccaacgcaa ggtgaaaggc atcacaaaat aggcaactgag 60
 tctgccctt ggaigaagtt agcattttt ggcccagga gcatctgctc tggcaactgaa 120
 acagcaatac cgacacggag acgagagcca tgcaaaaaca ctgagtttcc gagccccagc 180
 caggacagtg cgagttagta tctgtcttt ctttgggtt agaatcaagt gtcactaaa 240
 aataaccggt tggtaggaag aagtcactgc atagtacaat gccaagaaac ccggggatca 300
 gagagtcctc cgataactga tgctgctcgg ggctcacgtt tgtttgaaa actaaatctg 360
 cctccatttt ctgtgccgga aaaatcatcg ctctctgcca ccacagaaac cttaccttt 420
 gcagaagctg ggaaccggag tacttagcag caatggattt tatctcccca ccaaaagccg 480
 aggcccagag ctccacccta caggagagaag gggcacagga agatatgtaa caccctgtc 540
 acagtcaaca cgcacgcaca cgcacacgca cacatgggac tatggctgaa ggagcagtgc 600
 gatgtaacat gttttaaaag aagaaaagat agaaaaagcg gcttggtaga aactgccagc 660
 accaaaactg caaagcgcag cgcgggaggg ggcccagagg gggtcgcgga gtaagaatg 720
 cgcaaagtct cccaggctct ctaaaaagac cactgagttt cattcgaacc actgcccgag 780
 gactcgaccc cccaaactgg gcatcacctg gcaaatagca gtcagaagaa atccacccat 840
 cccccccca aaaaaagaag tggggcggca gtagagcaaa gaggggggaa attcagcggc 900
 ccatggaagt tggattcggg aaccaggctc caaagttggt gccgtcactt gagtagagac 960
 ggggtttcac cgcgttagcc aggatggtct ccatctcctg atcttgtgat ccgcccgcct 1020
 cggcctccca aagtgtgga attacagggt gccctgaatc tcaagtccag aaatccacta 1080
 gaggacctgt tacggtggag agaagatcag tctccattaa ggttggcgat tgatcaggac 1140
 tatttatcaa gaaaatcaaa gacaaagaca gatcctagga ggttctcatt taaccaaatg 1200
 gatagaaatc agatcactgt tgaacatcta gttggaactg actttgccgc tctactcaaa 1260
 tggatgaaggc ttctttctc caacagactg tgtggcagca tgaattatgg gcagggatct 1320
 gtgactgctc aacttttctc tggaggccct gtcaggggt tcagctgtcc tttcctcag 1380
 tgtcacatct tccacaaagc cattcacctt ttaaggattc actgagcact catcctgtgt 1440
 cagggtgctga gctgagcacc tgggatttgg aggacaggaa gacacagtcc cacaatcaga 1500
 agagaagcct ttccctagcc ttctctcaga gactccccc agaatccctt agcctatgat 1560
 ctgcatctcc tgggcaacct tctttccac ctctttttac ctttgtcttc tacttccagt 1620
 cctcttacca ccaggccatc tgtcccttga gggctgcctc agaatctccc acagcatgta 1680
 acagaatgag tggcacacag cagaagctca ataaatattt atggaatgaa aaa 1733

<210> 18

<211> 1498
<212> DNA
<213> Homo sapiens

<220>
<223> nbla20382

<400> 18
atttcaaat tggtaacac gacgtactgg agcttcaaag acaatgtctc cactgtcaat 60
gattaaacac ttgtgcaagg gagtcagata tgcctgggtg tgataatacc atggtgggtt 120
cagtgcagtc aggatgggtg gaatgaagaa cttctagaac actaaggaat atgtaaaata 180
tacccttctt ctgaggaagt agagttgaca tttagacttg aaggaccaat tggaataagg 240
tttccgaaat atgttatgat ggggtgggagt gtggaattgc aagcaaagca aagagtgtga 300
ccaaactggc aacgttggaa actgatcata gactgtttga ggaatggcag gtcccctgat 360
aaaagcagt ccaggagaga gttgctaagc ctggaaagag ccttgcaaga gtattcaaag 420
aataagggct ttgtttcaca ggcagtggag aactgtcgtc atccttaagc tggacagtga 480
tgtgttcaga ctgctgggtc tattcttcct ccgttcttct cttcctttct tccctcttga 540
tgatttccat gctttgtgga ggttgtgtta gaggtaaaat aaaaaataca taaagcgttg 600
cactgtcatt ctctgctagt ggagatgcaa actgacacag ctcttctgga ggaaaaatag 660
gtgatacata acaagaccaa cttttaactc aggatcttac tttagtaat ttatgcaaaa 720
gatctacctg caagaatatg aaaagacaag tggataagat tatttactgt agtattcttg 780
gtaatagcaa aatattagat gttttgctat tacctaaata ttcacaccta agagaatggg 840
tgaataaatg atagtgcagc tacacagtgg agtacaatgc aactgtaaaa tagagtggg 900
aaagtactg tgaattgatt gctattgaat aatgtccagg atatgctgta aagtggaaag 960
gcaaagtga gaagggttac tctgagatat tccttactta ataaaaataa aaggatatat 1020
gaaaaataag catgcacctg ctaatttgta caagagaaat actggaaaga taaatcagaa 1080
accagtgaat taaattacct ataggaagtg gatgaggaag gagtagaagg aagaggaccg 1140
aggtagtaga gatgaggaag aacagcactt ctcttatgcc ttagtttagc ttggccttta 1200
ggaagtagag tagactgggc atggtggctc acgcctgtaa tcccagcatt ttgagaagcc 1260
aaggtgggca catcacctga ggtcaggagt tcaagaccag cctggccaac atggcaaaaac 1320
gccatctcta ctaaaaatac aaaaattagc tgggtgtggt ggcacgtgcc ttagtttcca 1380
gctacttgga ggctgaggta ggagaatcac ttgaaccggg gaggtggagg ttgcagttag 1440
ctgagattgt gccactgcac tccagcctgg gcaacagaga gagactccca ctcaaaaa 1498

<210> 19
<211> 2256
<212> DNA
<213> Homo sapiens

<220>
<223> nbla20660

<400> 19
ttaaaacttg tccgggcatg gtggtagctc aggagttcaa ggctacagtg aactatgatt 60
gtgccactgc accccagctt gggtagacaga cagagtgaga ccctgtctct aagaaataaa 120

taaaaataaa aaataagagg agcttttggga attcagcttc ttggaaggct gaggtgggag 180
gatcacttga gcctgggcat ggaggttgta gtgagccatg atcacgccac tgcactccag 240
cctgaatgac agagttagac cctgtttcca aaaaaaaaaa aatgtgtgtg tgtgtgtgtt 300
gtgtgtatat atataatata tatatatata tacacacaca cacaacacag acacaatttg 360
tgtgtagcta ggggcagata ttgagatatt gaagtataa gtaactgggg atggggaagt 420
actggtcact taagagcata tagaaaaccg tcccagattg tcttttctaa tctatttttg 480
gaggaggttt ttatatatcc catgttttat attatttctc ccaaaccgga ttagatatag 540
tgaacaataa aataaatgca gtttccaaaa ccttggtgtt cagaaatgaa gggaaccatg 600
aggggagtga aggggacttg ccctttgctc tgtgctgtat gactgcccc gggaacagcc 660
ccaggacact tctatagttt ctttctgaga ctcacaaggt gttagcaatg ctctgagctc 720
actcaattga cagatacgtt taaggttctc aaataaattt caaacttcta aatttttcct 780
tttcattgtg tgcataatgt acagattagg aaaatgatct tctaattgag aagtatactt 840
caaagtttgg aaataaaatc ataaaaatgt ttctctaaac atagcctttt tcaggagttt 900
ttgtggatat ggtcaaaggc aatagctcta attatctggg gtcctcagga caggaaatga 960
gtcacactc atgtctcaa actgtgtcac agcatttttg gaaatatttt catttctatt 1020
caagaggagg aacaaggccc caagtgttca ccctaattgt tgaaaataaa cataaacatg 1080
aaatcacaa aagaacaact ataatggct gcaaatatgt gaaactatgt ttaacttccc 1140
agggagtcaa aaaatactaa ttaatacaag aatcatcttt ggcccaccac attatgattt 1200
tgtctgaata agcctcttca atgtctgcaa atatgaggta aaatggctgc tccggtgct 1260
ctttttggct ggtcttaagg ggcgcaaata gctccacccc atttggaag cacttgcaa 1320
tggctgctaa gacttttagt ttttcatag cttctaacct gctaagaagt agatacttgt 1380
tcccattttg ctgctgtgca aacagacttg tagaggtaaa gtatctcgta caaggttaca 1440
ttgatggtga ttgatggcgc caagatttga acttggttgt gagtccaaag tctaggtctc 1500
ccattctacc catgtgattt tacacacatg cctgatataa ttagctcctc ctcctctcca 1560
gagaagggca gctgacctt gtttcccagt tcagaaatcc tgggtgtgagt tatcagctgg 1620
ggttgagggt ggatagattt gttccaactt tacacattgg acctgagaat gtactttcct 1680
gaataaacag ttgtagaagc gactgacagt tgtggttgaa gttgttcccc cagtgcagt 1740
ccccagagg gtaaatgacc ttctgtgggc tgtccagga acttcatccg aggaaaagg 1800
gcttacctgc taacatttga cctgtttgga aattggggat tgtttttcct cattgaaatt 1860
ggtgagggtt ggaagaatac gaaaacgaat gtttgggtgt gaagaacgct ggaggagtaa 1920
acttactata ctcacaattt ggattacaac atagtttgt taaccagct ctggtgaacc 1980
aaatgtacaa gtattatttc cttatggttc atcttataaa atattttata aattggttgc 2040
tttctttaag ctctccacaa atgaaaaatc agtcccaaaa atctataaaa gactatttca 2100
gcgttaattg accattaagg aaatacatac taggctgcat gtggtagctc acgcctgtaa 2160
tccccacact ttgggaggct gaggcagaca gatagcctga gctcaggagt tcgagaccag 2220
cctgggtaac ttggcaaac cctgtctcta caaaaa 2256

<210> 20

<211> 1411

<212> DNA

<213> Homo sapiens

<220>

<223> nbla20666

<400> 20

```

ttaaaaatta gccaggcatg gtgactggtg tctatagccc cacctgctca ggaggctgag 60
gtgggaggac cacttgagcc caggagtgtg aggatgcagt gaatgccatg atcacacat 120
acactccagc ctgggtgaca gagtaaggcc ctgttaaaaa aaaaaaaaaa agtcctcctt 180
aaagacatgg gctttctaga cagggttctt ctgctgaagc ggctttcctt ctgccagaat 240
ctcaggaact cctggatctg cttttccaga accagcttct ctctccctgc tctgccttca 300
gactgccctc tttctacctc tccctctaga actacatctc ttctggctgg gtttatagct 360
tggggctggg ggaggccag tgggactggc tgagtggagc cagccgtgtg acggaggcgg 420
ccctcttcca gttgggcact gccaccctct cgtggtccaa gcagcacatg agcagaacca 480
ggtgctcaac accaagacc ggtacctgca tgacaacatc gtggactatg cgcagaggct 540
gtcagagacc ctgccggagc agctctgtgt gttctatttc ctgaattctg ggtaagtggg 600
ctgtggccag ccccgaggaa gagggtgaga cggtaacaaa gacagtcact cacatgggcc 660
cagtgtagt tagctgactg agtgtggact cggagaggca gccccactg caccaggctc 720
ctgagattcc cggctgtagg ccctgatgct ttctctgtt gatccagttt ccttgtctct 780
tattgaagga tgttattacc tctttctag gatcattgct ggagcttagt gagttaat 840
gttctttat ttctgcctta cggatacagc caaaatccct gcctgtgggt tgctcagtaa 900
ggaaggaaaa catcaagtga ttcttcaaag aaatacagaa ttgcaaggag ggctctggag 960
gaagtgtaca gggatcatg aggcctagaa aaagtgaggg gacctgacct gggggttcag 1020
ggaaccttc cctgaggaag ggctgttaag ctgagagctg actaggagat aactagaaga 1080
ggaggaagga aggtgctgc cactgcatca gaagtctcgt caaggctggg cacgatggct 1140
catgcctgta atcccagcac ttcgggagat cgagggtggc ggatcacctg aggtcgggag 1200
tttgagacca gcccggccaa caggcgaaa cccgctctct actaaaaata cacaaaattt 1260
agctgggcgt ggtggtgggt gcctgtaatc ccaactactc aggaggctgg ggcaggagaa 1320
tcgcttgaac cgggaggcgg aggttcagat gagccaaaat tgcaccactg cactgcagtc 1380
tgcaggacag agagaggctc tatctcaaaa a 1411

```

<210> 21

<211> 1346

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21239

<400> 21

```

attactacat tataaataaa ttcacagttg tataataaat tgctaactgt ctgtcataac 60
tgatagactt tcagccccac cagggtgga aaaagtctgt cttctccact aagctatgtg 120
tcttgcaagt atcagactgt cagcaaattg tgaaaataat aagtgaatta aataatgcat 180
ttgatagtct agcaatagat ctggctactc agcagcgtct ctgacagcat ccactttaga 240
aataggcata tgtttttccc actttcgcac tgtgtatcac tgtgatgcag gtccttaaag 300
caattgacca gctaggtctc attcagaaaa gagcagtcct gtcaggcgcc cagcctatgt 360
ctgtatcagg tctactact tggatattg tctgtcctga gaagcagcat catttggctc 420
atgcttatga cctctgccc gaatctcttg aaaaggagac cacaggaagc aggcacatg 480
aaggagtctt cagaagaggc agtgaccag gaaggcacct tgtctggacc ccctgccggg 540
tattcaaat ttgctatata ttagaatcac ttgtcaaac ccagtgaggc agatgaatcc 600

```

caataagttt taaatcagaa tttttggaag tcagacgcag acatcaatat tttctaggat 660
 tgccagggtga ttccagcatg tagccaagtt acagatgcc aactctagga tttgtgact 720
 agtgcctccag gaccagggac attggcatct gctgggagtg ttttaggagg gcaaaatcat 780
 agctctgtcc cagatctatg aaatcagaat ttgcatcata aagcaaatcc cttgtgtaga 840
 gttgtctgag ctctttatac attctgataa tcaatcctca ttgattgctg tgcatgttga 900
 ggtgtgagaa gactgccct agcacagaga gcagtatcac accattaact tactcctggc 960
 ctttttcttt ctcttttgtc ctctctcttt ccacctgtct cttcactcta tataaccagcc 1020
 atctagaact ccaattacct gaaatgcaac ctctttcttt cttagtaaag tgctgttagt 1080
 attacaaaac ctttaaacat ttagaaagtt caggggaaaa tgtgatgaaa ccctatgtat 1140
 gcaccattaa tatgtaacaa aaataaactt actatcattg agtcttttct ttttaaaaa 1200
 aaaaatgcta caaggccagg cccggtatct catgcctgta atcctagcac tttgggaggc 1260
 caagcggaga ggatcacttg aggccaggag tttgagacca gcctggccaa catggtgaaa 1320
 tccgtctctt aataaaaaata caaaaa 1346

<210> 22

<211> 2798

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21729

<400> 22

caaaagatgc tgttttacat aaggctactc aataccctga taaattactg gtctactaag 60
 gtgaatctgt atctgaattt tttttcaaa gaggatgaaa agattgtttt aatacatact 120
 gttttgacat ttctaccaat ctgtgtgtct caaagagatt tgtgtgtttt tgttgaatat 180
 ggttttacct agtatttcct gacttcataa ttttattttg taattaagca atataagact 240
 ataaataaga gtgcttagag aaaacaaaga ctagtacagac ctaaaattct aaattgggta 300
 tataatttta agtattatc gaaccagaga aaagaagcac aagtgaata gagcttaacc 360
 tcatcagagt cacttgatcc atggaaacca aggggtagaa atttccctc cctgggcctt 420
 tctgaggtat cctggtcatt gattcttatt aaacccttgg gagtttagta tttaaaattc 480
 caaagcccat tctggcaaaa gtaatttcaa gaactaccta tttaatggga aagccaattg 540
 aataataaag gccatgaatt ataatatatt tagaatatat tcagggttcc tcccacgact 600
 cccccgccc cccgagtata ttatagtgtc aaaaagcatg gctaattgga agtgctgcta 660
 aaaagaggtc ctgccagacc tgctttatct aatcctgagg aattaattca gaacttaata 720
 ggttttgcag ttgtggtttg tttttaaaat atcaataatt ctgagtagat tcaaggcttt 780
 ttttttgtt tgttttgtt tgttttgtt ttgagacgga gtctcactct gttgctaggc 840
 tagagtgcag tggcatgatc tcggctcact gtaacctccg tctcctgggt tcaagcaatt 900
 ctctgcctc agccccctga gtagctagga ttacagggtg gcgtaccat gccagctaa 960
 ttttagtatt tttagtagag acaggatttt accatgttgg ccaagatggg ctcatctct 1020
 taacctctg atccaccac ctcgccctcc caaagtgtg ggattacagg catgagccac 1080
 cacaccggc ctcaattttt ttttttttt ttttttttt tttactaact tagtcttctc 1140
 ctctctctg tctaccctta gcaatatata ggtaaacata tccagcttgt ctaacacatc 1200
 acagattatt agttaacaag gtgtagatta atgagcttat attgtattgc tggatctttt 1260
 gagttaataa caatggtaac ttgtccagaa ggcctatcat cattcctagt aggtgggcac 1320

agagtaagag atattaagaa gcttcctgat gagtcatcat ctagcgaagg cctgtgtag 1380
 ggcttttatta taggagttac attgacttct ggggcattca aaggtctccc ctcttatcca 1440
 tatctctgtc attttgcttc tccagccacg acaacacact ttctctcca actgctccct 1500
 cccaccacaa aaagaagacc ctctaaaagg caaaggaata aatattctta gaagtaaatt 1560
 atcttcatcc catgctgcct ttttcaaaga ggtgttagga tatttatcct atttctgtat 1620
 ttcacagtag cttttcagge tgtcctgctt atatataagc tgatttatat tgagaaaaat 1680
 cacttttgaa taaagaggat gaaatgactt tacaccccat taaatactca gtcaagctta 1740
 gccatgactc agtaactaaa aagttcaaaa aatccagtta tgtaatgtgc agagtaacaa 1800
 attgcaagaa aaacaactta atcttcaggt gactaagtaa gaaaaactgt tgtcactatt 1860
 aaacatgtag gaaattgata attattacaa acaagcaat actctaccct aaatctagac 1920
 aaatcactgg acagatgata agattttcag ctttctcctt taaagagctg tgccaatgta 1980
 cagatTTTTT tgtaaacatg caaagggaag gttacaaact ccttaaaactt taaaaacca 2040
 taaatccttt ctttgctact tatattctat gccaatata atattccaag acttaccttt 2100
 cttcagaatg cttacatatg gaaaggttta tttataaata tttgataggt aaatattcca 2160
 tatgtatttt ctagcccgctc tttctctgtc cctccctcaa ataacttcat taccctctcc 2220
 tttttaacg aaatatcttg ataataagaa aacaaaatca ttttttgtg aaataatata 2280
 tatggacaaa aaatacaagt tgtattttac ttctgggtca ttaaaatatt gtgtttagtt 2340
 ggattttttc ctcttttatt ttcagaaaca taaaagaaat tgttttattt cctaaaggat 2400
 aaaattggat atagcctctt tagtagacac tatcacagtt ctgttggttg ctgtgttcat 2460
 ttgcttaatg aattgcgtga gaacagtcac tgtaatgaaa tatgtgtgct ggggggtggg 2520
 ggaagggcat gggaaatgtt ttatgaaaaa aggttataag cctaatacta tgaagtaaca 2580
 tctaattgcag ttctttttta gtgcaatata tttatttctg ctagaaatat attatcaacc 2640
 ttatgtaata tttgaagcat tacatattat ttgtaaacag cttaaaatta tatattacc 2700
 caattgtaca taagtacaaa tgtgtggata ttagtttctt tcattaaaag tgggtgtttt 2760
 ttaaaaatac atttgcaccc atttacacct ttcaaaaa 2798

<210> 23

<211> 3322

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21831

<400> 23

ctcattttct cttgctgccg ccatgattct gaggcctccc cagccatgtg gaactcttgt 60
 gttgtgtttt taatgggaga gttggtcagc gtctgctgga acagagctac gcctatggaa 120
 ccgtagactt gttcgtgctt tattgcaata ctttaaagac acaaagtctc aacaaccatc 180
 ttccgcttga cgagacagat cattctaatt tgagcagaag ctactatgtc ctgccctttg 240
 aacgcggcgg cccggacagc tgacaaggac acactgtgta tttccattcc aattctggga 300
 gtgctctgag gcctctgggg gagaaggacc catgaaatat tcaaaacata agtgaataaa 360
 atatctaggt gctagatatg ggccaggaag agccctcggc cctgcaaagt gtgtgtgatg 420
 gtgagaagct accggaagag atggtccctg tgcttggttc attccttga catttatcaa 480
 gctgacgaat gtagcagagg tgcttcagtc ggctgtaatt ccacgggttg agtgctggct 540
 ggagagttac ctggggctgt cactgcat gggctccggg acactgtggc tgcccttatg 600

tggtgtcccc ggagggccct gcaggtgtca caccgtgtct ccacactgcc acctgtgtgc 660
agcatctgtg caacgtatcc aggtctctgg gggctagaat gaaaaacatg catctcgtaa 720
ccaatgaaat cgggcttgtc ctgaagacct cgtgcattca tccattctca cactgtata 780
aagacatacc taagactggg cacttcgtga agaagggagg titaattggc tcacggttct 840
gcgggcttta caggaagcat ggcagcttcc acttctaggg aggcctcagg aaacttatag 900
tcatggttga aggtgaaggc gggacaaggc gtctcacatg ggagcagtag agagagaaaa 960
agaggggttg ccgcacactt tgaacaacc agatctaacg ataactcact atcatgagaa 1020
cagcaccaag aagctggcgc taaccactt gtgaaggacc accaccatga tccaatccct 1080
tcccaccagg tcccacttcc aacgttgggg attacacttc acggtcacat ggagatggca 1140
gagcacctgc acgtgcacct ggagaccctc tcaagcctcg tctcctggca ctgcctcctc 1200
ctgacattgg aggctgtgg gactaccagc ctgtaaccct cgttgtgatg gcacctgcct 1260
ggtgtctataa ttcagacatt tgtctcccca acctcatgtt gaaattigaa cccaatgtt 1320
ggaggtggga cctgacagaa ggtgcctagg acatgagagc ttggtgtgtg cctcgcggtc 1380
atgaatgcat tcatgttita ttccttctca caagaactga ttgttaaaaa cgcttggcac 1440
ctcctctgcc cactctctct tgcctcctct ctcaccatat ggtctgcatg cacctgtctc 1500
catcgcctta gcactgagtc ggccttgttg acctactgga ataattaggt ctaagtggag 1560
ttttaagggt actgatgact tacaataat gggctctgat tgggcaatac tcatttgagt 1620
tccttccatt tgacctaat taactggtga aatttaaagt gaaticatgg gctcatcttt 1680
aaagctttta ctaaaagatt ttcagctgaa tggaaactcat tagctgtgtg catataaaaa 1740
gatcacatca ggtggatgga gagacatttg atcccttgtt tgcttaataa attataaaat 1800
gatggcttgg aaaagcaggc tagtctaacc atggtgctat tattaggctt gcttgttaca 1860
cacacaggtc taagcctagt atgtcaataa agcaaatact tactgttttg tttctattaa 1920
tgattcccaa accttgttgc aagtttttgc attggcatct ttggatttca gtcttgatgt 1980
ttgttctatc agacttaacc tttatttcc tgccttccct tgaaattgct gattgttctg 2040
ctcctctac agatatttat atcaattcct acagctttcc cctgccatcc ctgaactctt 2100
tctagccctt ttagattttg gcactgtgaa acccctgtcg gaaacctgag tgacctccc 2160
tccccacaa gagtcacag acctttctc tttcacgaac ttgatcctgt tagcagggtg 2220
taataccatg ggtgtgtgta cactaacagt cattgagagg tgggaggaag tcccttttcc 2280
ttggaactgt atcttttcaa ctattgtttt atcctgtctt tgggggcaat gtgtcaaaag 2340
tccccctagg aattttcaga ggaaagaaca ttttatgagg ctttctctaa agtttcttt 2400
gtataggagt atgtcactt aaatttacag aaagagggtga gctgtgttaa acctcagagt 2460
ttaaagcta ctgataaact gaagaaagtg tctatatitg aactagggtc atttgaaagc 2520
ttcagtctcg gaacatgacc ttagtctgtt ggactccatt taaaaatagg tatgaataag 2580
atgactaaga atgtaatggg gaagaattgc cctgcctgcc catctcagag ccataaggtc 2640
atctttgcta gagctatttt tacctatgta tttatcgttc ttgatcataa gccgcttatt 2700
tatatcatgt atctctaagg acctaaaagc actttatgta gtttttaatt aatcttaaga 2760
tctggttacg gtaactaaaa aagcctgtct gccaaatcca gtggaaacaa gtgcatagat 2820
gtgaattggt ttttaggggc ccacttccc aattcattag gtatgactgt ggaaatacag 2880
acaaggatct tagttgatat tttgggcttg gggcagtgag ggcttaggac accccaagt 2940
gtttgggaaa ggaggagggg agtggtgggt ttataggggg aggaggaggc aggtggtcta 3000
agtgtgact ggctacgtag ttcgggcaaa tctccaaaa gggaaaggga ggatttgctt 3060
agaaggatgg cgctccagct gactactttt tgacttctgt ttgtcttacg cttctctcag 3120
ggaaaaacat gcagtcctct agtgtttcat gtacattctg tggggggtga acaccttgg 3180
tctggttaaa cagctgtact tttgatagct gtccaggaa gggttaggac caactacaaa 3240
ttaatgttgg ttgtcaaatg tagtgtgtt ccctaacttt ctgtttttcc tgagaaaaaa 3300
aaataaatct tttattcaaa aa 3322

<210> 24
 <211> 1823
 <212> DNA
 <213> Homo sapiens

<220>
 <223> nbla22826

<400> 24
 tgcatttaag caatccttcc ccttccttca gaatccccac ctaatagcca tgaagctgta 60
 gaaatggaaa taaatccaaa atagcaccat cagaataagt gccatcagca aaccagaaat 120
 ttagttgtgt tctggaaagc cgaaagtaat aaaaccctac tgaaaaatac ccctgaacag 180
 ggaaggtcgt gacacagcaa aggaagaatc agacaggaac aagttttagt ggtgggtgga 240
 acagcccca ggagcccag gaaagaccac atttccactg gacccaaga gagaacaagt 300
 gcgaattgct tgcagtgatg ggaacacctg gccatccttc aaccattacc cctccacccc 360
 catcctcacg gattcccaca cagagcttcc aggatgattt tttctcaaaa acccccaaaa 420
 acaaaaagta ccataatatt tgctaaaaaa aaaaaaaaaat tgaacagttc actcctcact 480
 gagaactaat accaaagaga gaaacagaat acattctaag atagtaccag accttaaaaa 540
 tagatgacat ggagtaatgg cagaagagtc aactatttct caagggaaat aaacaaaaat 600
 tctatacacc taaagtacag tgctttatat ttttcttaga ggagtgggtg gaggaagggc 660
 ttgggcttac agcttgccctg gaggcttctc ttctcttgag ccctaaatga atccttcaca 720
 tcagcatacc ctgcccactt acaaagagcc ataaatcagc tcttccctac aaaggatagg 780
 tgtgttagaa aaattgatcg gaatactgat acaggaaagc cagccaact acctttgtta 840
 accaattttt tatttaaaaa tatgaatata taaccagtga cgccaaaaag aaagactagt 900
 cccaaaggaa atctaggaaa tctaattcaa ggtaaagaag aaaaaagttt caagtataat 960
 tgcagtcctt agaaagattt gaaattattt gtgttaaata aaaagagaac agattggtat 1020
 gaaaaagagg taattacaga acaaatgaac acttgagaat taaaaatatg attgacaaac 1080
 aatagaaggg atgataatag ctgaagtctg aaacgttgaa tataaagttg aaaacttttt 1140
 ttttctgagt ataaagcaaa acacagatgg aaaatatgaa agggattgaa gatacacagc 1200
 cagtcaaggt ggcagaaaaa gaaatggag aggaatgaat aataacagaa atagagcact 1260
 aagggaaatg agcaacttac aatcagaaaa gaaccctta caaaaaagga aacgagacca 1320
 cgagcaagag caagaacaaa caggacagcg gagaatcaga ctccctaattc agaaactggg 1380
 gttatcaagc ctagaatgtg aaattagagc ccttgcttta atttctggaa ataaaagaga 1440
 ggattggaaa tgtggtaaag agcaagaaaa cttggaggag tgttaaacag aattctagga 1500
 ataaaataat ataattaggaa ttagaatttc catgggcaga tgtaacagca cattagacat 1560
 agctgagaaa gaattaatga attggaaagt tgaatttaag aaattatcta gaatgcagcc 1620
 tagagagaca gaaatggaaa acaggaaatt agttaagaga catggagata aagtggggaa 1680
 gtctaactat catctaacta gaatttcaga aagggaaagg gaagcgagac agtactgaag 1740
 atgattgatg gctgagaatt ttccagactt gaaagacatt aatccacaga gtcaagaaac 1800
 ccagtgaata ccaaggataa aaa 1823

<210> 25
 <211> 1751

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23899

<400> 25

acaagatcca aggcacccgg agagtaggga ccatgcctcc aatttcttcc aggaggtctg 60
gtgacgctga aggcagcctc taccttcctc tgcgcctgac tattccctgc tctctgagct 120
acttctcatc tgggaaatgg aggcataacc ccagatgtac agggggattg ataacacaga 180
tcaaacaatg agcgcgatgt caggcgacac gcaggtcctc aggcagcact agctgaatat 240
gtgaacaaat gattggacag agggatggat ggaaggattc ttgaagcttc cactgcacag 300
ggctgttgaa acaacacaac gcgggacctg gatgtagatt tcatctcgca gctgagccat 360
gtgcttctct gccttgcatt tcatccaagc cccagtatg agggggacac agggctggct 420
cagagcaggc cccgctcagc aaaactcact gaactccaa cagggcaaaa cctgcaggcc 480
ccacagggag cttgggacct gactgagaag aatcagggtt cccaggggtc tcagtcacag 540
ggaaggtcac atccatctct ctggggaaca ttatcactgg gttgaaatgg aagccaaagg 600
gtaaaaagac acccgagtct gtgaagcagg aactggcaaa gccatgtgg cagacatgca 660
gcctcctata accctctgcc aaggccagcc tggaccacc ttctccacac agccctccca 720
gacttcctct gtctggacac aacaggaccc actggggaaa acaatgatga cttgggagtc 780
tgacaacctg ggctccattc ccagggtgtg cactgactgg atggatgaag ggccagcatt 840
ccctctatct ttttattttt atttttttt ttgagacagt cttggctcac tgcagcctcc 900
gcctcctggg ttgaagcaat tctctgcct tagcctcca agcagctggc actgcaggca 960
tgagccacca cgcccggcta atttttgtat tticagtaga gatgggggtt taccatgttg 1020
tccaggctgc tctcgaactc cttagcctca gcaatctgcc ctctaggcc tcccaaagt 1080
ctgggattac aggtgagaat ctggccccc actccccctc ctgatgcctc agtttctctg 1140
cctgcaaaat ggagatataa tgccaactc aaaagattgc tgtgagtatt atatgagata 1200
atgcctggca agagcccagt gggaggcctg gctctaaaga ggggtggcagt tttaatgaga 1260
aggtgtcagc actcaggga cgttgactgg tgacctatgt gactgaggcc actggggagg 1320
agaacctgca ggtcccagga cagggaagag actggtctgt cccaggaata ctctgggtt 1380
tctgttctc tggcctaagg gtcatagcaa ggcaaaaggc aggaagggt gaagagccgt 1440
gaaagtgata gaggctgctg ggcgtggtg ctgcgcctg caatcccagc actttgggag 1500
gctgaggcat gtggatcacc tgaggtcgga agtttgagac cagcctggcc aacctgggta 1560
aggcctgtct ctgctgaaaa tgcagggatt ggccggcggt ggtggtgcat gcctgtagtc 1620
cataatccct gctgccaggg aggtgaggc agaagaatcg ctattgaatc cgagaggcgg 1680
aggttgagc gagccgaggt cgcaccactg cacttcaggc tgggagacag agtgagactc 1740
agtctcaaaa a 1751

<210> 26

<211> 1264

<212> DNA

<213> Homo sapiens

<220>

<223> nbla20578

<400> 26

atgtgggatg taaaattgga tggggttaga gatgagtga ggcaattcaa cgcattggta 60
gggttggaag ttctcagcag aaatcaccat ctgggttttt gctcccgtct caacctagtt 120
gaggtctaga gtgattaagc tggagacttc tgaggagaga gaaatgaact aaagataaat 180
acaactgatt taattttagc catagcagaa cagaacaaag aagcaaccac atttcatcta 240
atatcaagca cctactaaag gatgcattct gcaggccagc tgcattctga tccaaaccaa 300
agtcactctg gttgctcttt tgctttgata acttaagagt ttagaaacaa gcggtttcta 360
aaaaagccaa gataacacaa taaggaccaa attttaatcc cacatagaca aagagattaa 420
agtgggtttt cctgaattgc ttatgttatg aacaggttac ctgtcataa ttggccttc 480
ggcttgggat tctaactgtt ttaggccacc agttatgaca ctgacttact aatagctttg 540
gactttgaaa ctgtgtgagg gtcatatagc ctcagcagtt ttcttgtagc ctgtgattgc 600
attgagatta tataattttt aaagacatgg cctttggacc tctgtctact agttaatctc 660
ttccatctac cattcaaagtg tgctatatac aactatcata tcagcttctt agcaagcact 720
tttctggacc tctgtcacac ccaccaagat gtctagttat gcctttcatt tgagagtttc 780
cctttgctgt tttttttttt ttgttttggt ttgttttggt ttgttttggt ttgttttga 840
gactgagtct cgctctgttg cctaggctgg agtgcagtgg cgtgatctcg gtcactgca 900
atctccccct cctgggttaa agtgattttc ctgcctcagc ctccctagta gctgggatta 960
caggcgcag ccaccacacc tagctaattt ttgtattagt agagatcggg ttccaccatg 1020
ttggccaggc tggctctgaa cacctgacct caagttaatc caccacctt ggcttccta 1080
agtgtgggt tttacaggca tgagccacca cgccagcct ccctttgcat gttttttaa 1140
aaggcattaa gcattctgca catgttcttt agtttcagtt tgcattgagc aacctgtgtg 1200

catcattttc cctttcacta tttcttgtct ttgctgggtga aattttaag cttcagttta 1260
aaaa 1264

<210> 27

<211> 1795

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21908

<400> 27

acagttgttg caaagtgtc agcactaagg gagccagcgc acagcacagc caggaaggcg 60
agcgagccca gccagcccag ccagcccagc cagcccggag gtaaggaaac ggtgctcggg 120
cagcagctct gctcggaag aaggcacggc ttctgtcttt aagccaagtg gtcttttcaa 180
aggccttctt taaaatcgct cagatgggtg cttttgagtc tgcgggtctg gtttctgaaa 240
accaggtctg cacgcagctg cattgcaaag tgcttttgct aattcgagg gttcacctt 300
tctcttcaga aagcaaaggc cagttttctt aagtcacttg cagaaggaaa ttccatgtg 360
tatttaggaa tctgggtgtt atttctgtg tggctattta agctccagta agcaggggaa 420
ctttgaaga acacagacta tccattctgc ctgaccaatt tggcatgggg attagcttgg 480
caccacagt ttacctgtt tgcttctagt atatcagttt ggaacagat aaaattggca 540
gtaaatacgt aattccagaa tgatgaacac tttattaaga ggcattcctta aatggagcag 600

aaaactgctg agaatctttg tgagtccaag atgtatttga attcagtact ttgggggatt 660
 taccagagtc tgtaagtcgg gaagctataa acgtgaatgt taaacacagc ccggtcttct 720
 cttctcttga tggcagcgtt gctaactaa tttgagtatt gttctcttag aaggtgttaa 780
 gtccaacttc aattgggggtt gggggaagca cacacacaaa tctactatct tgcaatttaa 840
 atatactctt caggtaaaaat gtggattttg ttcaattttg ttggcatgtg caaagattca 900
 aggagtgact gagagaactt tggagtggagg tcagggatgg gtggttagcc aagacttgta 960
 acttccaggg agaattgagaa gtigtataaa tcagactggc tgtctctctt tctctcttcc 1020
 tctttcttcc tttctttcct ttgtctcaca acaggattac ttagtggttc aaaagtggga 1080
 gagagcctcc ttaaattggtt tacagccctt tgaatgtatt tgggtgcagt acatccctg 1140
 aaacttcagt ctgcaaagtc tcaacatggt aactttgttc ttttctttt taaaggcaga 1200
 tgctgctttt agtgctcctt tatttatctc aggaaaaatg tggacatcag ctaggcacgc 1260
 ctagcaaaga aagtggaggg tgctgggttc tgtgctttaa ctttccatag attttaaatg 1320
 gataaactgc ttgcccttct ttcatcagaa tatgagcttt cccagatgg aaagtctttt 1380
 ctaaagcaaa gttgcacatg ggagctctag ctggaaaca atttgctctt ttttcccag 1440
 tctctgccat aaacacttga atgtgcacac aactgcagag cttaatgcca caacctccag 1500
 gagattgggg ggaggggaaa gctgccagg atgggggtgg gaaagcgaag gaagatggag 1560
 aaatggctgc agtttgctgc ccatcagctt ttctctttaa aggggcagac attgcagacg 1620
 tagttttaa aaagtccat aaagcatcgc caaggcagca tgcctgtgcg acacacgag 1680
 ggctttgggg gtgtgttttc cccgtattaa cagcaagtcg ttgaagcgtt gagaaggtat 1740
 tatgatttct aatcaggccc agaacaggcc aagtataggc tttctgaatg aaaaa 1795

<210> 28

<211> 1620

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22027

<400> 28

ttgatgcata aatggttga cagatggggg ggtgggtgga tgagtgggtc gatggatgga 60
 tggattaata ggtgagaaat atttggatgg atgaataaat gttttgatgc atagatggat 120
 ggacagatgg atgaatggac aggtggatgg atagataaat ggataagtgg atggatgggt 180
 agaaggatgc atggaaggat ggatggatga acagatggat ggatggatgg atagaaaaag 240
 aaatagagaa ttaaggacca ctgggggagg gatggattgg tgggtgactg gatcagttgg 300
 tggatggatc ttggtggact gcctgtctcc ttcaaccct atccatccaa ccacaatctc 360
 tttgctgttt tccctttcaa gtctgecctc ctctgacct tccctcctg ttcctcttgg 420
 gcatggcctt ctcctcata gtccctgac tccatccttc ctgtttcgg tcatccccca 480
 cactgttctt tcaaactga aagtctggct gtgtctccct ctgaaact ccatggctcc 540
 ccactacccc catcctgata aaacccaagc cttcctcca gacattgggg ccccttcca 600
 tctggctcct gctgactagt ccaaccacca ctactcttc tctcatgca tcagatatca 660
 tagccccatc aaaccacca ggggtccctg tacaggctgt gggccctctt tctatctgt 720
 ggaatgcctt gccacactgt taagggaagg tgatctgtgg gtggggcgca gctgggcct 780
 ctctcagacc tgccctcgt cccagcctg accctcttg ccaaatctg tgagaagact 840
 gtgctgaagc gagtgtgaa ggagctgtgg aagctggtta tgaacacat ggagaaaacc 900

atcgtcctgc cgccctcac tgaccagacg gtgagacctg cagggggccc gaggggacat 960
 ttaggccacc tccctggcga gagcccagaa aacttgggtgc ctagaggctg ggggtaagaa 1020
 caaaggcatc cggctctcaga gaggtcatcc aggtcaagg gccattcaag ggtcatggaa 1080
 gccaccagag gtcagtgggg ggccattcag aggtcagaga gttcacacag gggtaaaga 1140
 tcatcgaaga gttaaagagg tcattcagag tccattgtat tttctctggg gtcaaagaca 1200
 tcaggtagag tcaagagacc actaaagtca tagaggtcac atgtaggtca aaatagcttt 1260
 caaaggtcag aggtcatcta gaaaacaggt caattttggg atcaaggta tccttgagcc 1320
 acggaaggca tagacattgg ccaggcacog tggctcacgc ctgcaatccc agcactttgg 1380
 gaggtcagag gcgggcagat tgcttgaggt caggagtgc agaccagcct gggcaacatg 1440
 gtgaaatctc gtcttacta aaaatacaaa aattagctgg gtgtgatcct gtgatcctgg 1500
 cttcttggga aactgaggca cgaaaactgt ttgaacctaa gaggtagagg ctgcagtga 1560
 ctgagatggc gccactgcac actccagcct gggcaacaga acgagaccct ttctcaaaaa 1620

<210> 29

<211> 1426

<212> DNA

<213> Homo sapiens

<220>

<223> nb1a22082

<400> 29

gagggcccat gtgctgaaaa tccgaagtgc cgcggaaagt ggaggtgagg gccgcccgcc 60
 ctagagggtgc ccgtccgaga ggcaggtgcg ggaagagcct atccttttcc ctggccatgg 120
 ctcatcgcc tccccagggt ttatttgac cgaagtgtg gagcgggtgg gtgctgaaga 180
 cagctaggcc ttggcgatgt ctgggatgag gctgggtggg gaagccttg gagccgtgac 240
 ctgagagggc agaccttoga cccactaca ttgactgcg ccttcagaac atgcagggaa 300
 aacccactg cgggacgctc accagcagca tctccagatt gtgaaggga agaagggaag 360
 gatctcgggg gcatgcaagc tgctctgggc tggggtggtt cagacctgga ttgactgagg 420
 tgaaggggt ccttgacga atcacacaga aggtcgggt cttagattg gccctgctcc 480
 tagtcaagct gtatgaacca gggtagtcac tccggcttcc agggccttga tttccttgct 540
 tgtaaaaggg actttacgat gcatctggca acctcacct cctcactggg caatgtgaag 600
 accaaatgcc ggcaatgaaa tcccagcat taggtttgtc atatagtagt cctctctaag 660
 catttggtga atactcacag gaacacttag gccagtcagc attaatgaa aataacaggt 720
 ggggtttttt tttttgtttg tttttgttcc ttttccgaa aataacatca ggcctttata 780
 ctgagaagta taaagaagaa aaatgagcca gtatctcact gttcagataa accgttaata 840
 catattttta aatgcacatg gttagaaaat gcaaacgtta cgggaaggaa caaatggaa 900
 ttaacagacc tcccaaacag ttctctccc cttaacaag tactttggtt tcttgttcc 960
 tttccataaa tataactgtg ctggaatata tatttgtata tttacccac agggataata 1020
 atacattatt ttgcaccttg ctttgttaaa atatttaaaa taatttaaat gacaccaca 1080
 accctgtaaa tgtttatgga tgatgaaact gaaattcaaa agttaaatg ctggatgggc 1140
 gtgggtggct acacctgta tccagtagt ctgggaggcc aaggcagatg gatcacctga 1200
 ggtcaggagt tcgagaccag cctggccaac atgggtgaa cctgtctcta ctaaaaatac 1260
 aaaaaaaat ttagcgggtc atgggtggc atgcctgtaa tctagctat tcaggaggct 1320
 gaggcaggag aatcgcttga acccaagacg cagaggtcgt ggtgagctga gatcatgcca 1380

ctgcactcca gcctgggcga cagaacaaga ctccgtctca gaaaaa

1426

<210> 30

<211> 2062

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23303

<400> 30

gagcttgagc tgagatggac tggctttcat gggcgcccaa ggcgctgggt gcagctttcc 60
ccgagacccc cagatggaaa ggagggaagg aggaacccca cacactcgcc ttttgcgaga 120
agatcggcgc gcaccccaga gtgcccgaag cctttggaat ctgcctgctg agcggagcgc 180
gcgagcgtgg tggacaggtc ccgaacttgg ccagcgggct ttcttggcaa ctigctttgc 240
gcagttctcc atggaaccct ggacccactg tgcctccggc gccttgcctt ttttttctt 300
tttctttctc tcaactgtctc tttttaaatt tatgaactcg aaatgaagcg gaaagcagat 360
atgcgcgtca gcatactttg gcggtagttc ttcattgtgg ggatggtcag cgggagatgg 420
cacttcataa gatctgcggt ggtcacccca gtcattcatc gacgtgttgc accagtctgt 480
ggcacttcatt aaggtctgca gtggtcacc cagtcattcat ccgatgtgtt gcaccagttt 540
gtggcacttc ctaagtctct cggtgttcac cccagtcac atccgacgtg ttgcaccagt 600
gtgtgttgc gtttgagccg tgctgccgac cccttcagg gcattctgca cgggcacctc 660
ctccagcccg tgactaaga ctcaagagag tcgaagaacc agggaatcgt tgtaataaca 720
agcattctga attgcatcgt actgtgtact agaccttta aaaatggaac tgcggctgc 780
ggctggaagg cgcaggcagg cgccttggag agaattcaca gggaggcaca ggacagaacg 840
ctcccaggaa cgagggaagca ccccagaaa ggagcgtct atgggctcca ggcagccgag 900
gaaacgcgaa cgtgagcccc gtgactgcac tcccacgtc accaacgtg ccagtgtgag 960
cagaagcgga gcccgcagag cgcaggctg cgcgggaga tgcattcaga tgaaaaactg 1020
cgccagagca tggcgggaac tttccgagag ggcgtgttgt ttccaggcgg ttccacctc 1080
taatatgaaa cagtcttgggt tgattttcct tgatactact ttatgctcgg cctggttgtt 1140
ggcaagtagc tgccgcgctc tgtacgcgcc ctgtattagt ttccactgca tgtgttttaa 1200
cacagtctc ctttttccac gtttatttgg gccaaccctg tctgcaaaga tccagtttaa 1260
tacagatttg agtctacgtg ctatagcctg gaaatgtact aaagacacta caacatattg 1320
ctgaaagaat agaattctta ttctgaatgc aaagcggaca cctagtaaaa aattctggaa 1380
taataaaaca agcaaggctt atgtgctcag ttttggggac gtttcaattt aaaggcttag 1440
tcattgtcac ggtgtaaggt ttaccattg ccccatcac acagatgtgg gattgttgag 1500
agctgagtgt cctatgacct cttctgctgc ccaagaactt ggggtgggtg gtaactggag 1560
aaatcaaagt gatcagctgc aaagaacgct tccattgtg gagcttggtt gtgcgggatt 1620
ctccacggag gtcttaaggc agagacaaaa acaaggactt tgggaggctc ctgtgagcag 1680
ccaaaagggt ttagagtcag gcagcctcag gttacaaatc cagtcctgca ggctaggagt 1740
tgtgtaagct taaaaaagt actgcacttc caggaacatc atttcctac ctgctcctcc 1800
ttctgacggg ttttctgagg acaatggaat ccacactctg tgtcgaacac ttttctaatt 1860
agcgtgtgac agacactgtt tattttacag gaataaaaat gccagaagaa cccaagtcatt 1920
attcatttaa agcagggtga caagtacacc aaaatctgaa aaatcatcac taaagaactt 1980
atccatgtaa caaaaaacca ttgaaataaa agtaaaactat ggaaacaaaa tttaaaagta 2040

ataaaattta aaagtccaaa aa

2062

<210> 31

<211> 1592

<212> DNA

<213> Homo sapiens

<220>

<223> nbla20264

<400> 31

ggtccttgga gcttggaaga tttatgcata taggagagtg agatctctgg tagtagaagc 60
ataattaatt agatgcccac taaataacct aaacttttca tcaaagaaat gaacaatgct 120
atacatttga gttcccctta ctcttgaggg atgaagaaag gcttaagttg accgttgggc 180
agatgttagc ttgtgtctga gatctgttct tctaaaaagg ataaggctct ctctaccctc 240
tcccttaatc atcagacaca ggactggctt catgggcatg tgacatgtgc agtcacacaa 300
ggccccattc ttagaagggc ctcacacttg gtttaatgag ctgctgccac catcttgtaa 360
ttcttaatca agttttttta agggaactctg tattttcatt ttgcactagt ccctccaatt 420
atatgtttgg acctgacaga catatgttgc tgctaggact ggtgagaaag gaaatgaggc 480
catcccacta actgtagtat ttatagatgg cagatcctgg tggttgtgaa aagtgggggc 540
tttgtgcact tgtaagagca tttgcagtgc agtacatggt aacactcatc catgaaataa 600
tgaccagttt gaaatgcttt ctagtataaa cgctacagtg atgtcagctg aaacatgaat 660
gttagaaggt atctgttcat tcttcgtaac ccctaactg taaacctggg atgttcctc 720
acctagcttt taactgaaag gtggttatat tttgaatccc taaatcaaga agtcccagag 780
cagctttatt atcaaacttg gaatccagca ttcactactg tgtttcactc ttctatgttg 840
gaatattaac agcaactggag tcccataaat tatgtatttg ttgctgaatg ttgctgccag 900
ctatgagtgg caaagcagtt ccttatgtag cttattttgg tttacaaga tcattgatgt 960
gtatcaagat ggctcaacaa atgaaatgta gttcaaatca tagagttacg agtctgtgca 1020
actagattga tttttcttgc ccttgagtgt cacagtgggt gcactctata ctttaaaaag 1080
tgtgaaataa caaccaggag agatagggaa aacccaattg gcttttaaaa aaatgaatac 1140
atgtcaaaga ttttatatta ggcattaatt aataattaat taactggcaa agtaagtggg 1200
tactgcagtc caaaggaaaa tccaaagagt agacacatac ataggcaatg gagaatgtga 1260
aaatgaattt gttagcagac gcacagctgg cttctcccat gggcaggggt gagtgtggga 1320
ttaggtgtgt cttaactgga caagatttgt ttgcagtaat atcagtattc tttaagagtt 1380
gtaaatagat tagtaaaaat actaaaaggt gtagtcccct gtagaatcag atagcccaga 1440
aaagtgtgct agacaacacc tgaagttccg ctgaaaagat acccagtgat cactttttgc 1500
ccatttcaaa tctttctcag tttatctgac tgtgtctccc cctcctccc ctgtgatcgt 1560
aataatctca gtgattatcc ttcatitaaa aa 1592

<210> 32

<211> 859

<212> DNA

<213> Homo sapiens

<220>

<223> nbla20269

<400> 32

```
aaaaaggagg ggcgtacgcg ggcaagatgg aggcgactac ggctggtgtg ggccggctag 60
aggaagaggc gttgcggcga aaggaacggc tgaaggccct acgggagaaa accgggcgca 120
aggacaagga agatggggag ccaaagacca agcatctcag agaagaggag gaagaaggcg 180
agaagcacag ggaacttagg ctgcggaact atgtcccgga ggatgaggac ctgaagaaga 240
ggagggtgcc ccaggccaaa ccggttgtag tggaggagaa ggtgaaggag cagctggagg 300
ccgccaagcc cgagcccgtc atcgaggagg tggacctggc caacctcgct cctcggaagc 360
ctgactggga cctcaagaga gatgtggcca agaagctgga gaaactaaaa aagcggactc 420
agagggccat tgccgagctg atccgtgaaa ggctgaaagg ccaggaagac agcctagcct 480
ctgcagtgga tgctgccacc gaacaaaaga cctgtgactc cgactgaggc atgccctgcc 540
ccaccactcg ccatcaggc ctgtcctgca ggggatggtc ttgggcaggg atgggggcta 600
ggcttgccat cacctccagt ttggcttctg agcagagact ccctgcccatt caagtctgaa 660
accccatgg atgaggtcag ctcttctgtc gctgggtggc ccctgccatt ctgaatggag 720
gcagaaccag caacaactct gggcgtgcct gtgtctgcac atgtggatgt acatatgtct 780
gtatatatgt atatattttg aactttctaa aaaaaaatc tggaaataga aacaagtaaa 840
cccctgtgtg tggcaaaaa 859
```

<210> 33

<211> 1800

<212> DNA

<213> Homo sapiens

<220>

<223> nbla20406

<400> 33

```
gattttgagc ttgcattaga aaactgtcca actcacagaa atgcaagaaa atacctctgc 60
cagacacttg tagagagagg aggacagtta gaagaagaag aaaagttttt aaatgctgaa 120
agttactata agaaagcttt ggctttggat gagactttta aagatgcaga ggatgctttg 180
cagaaacttc ataaatataat gcaggtgatt ccttatttcc tcttagaaat ttagtgatat 240
ttgaaataat gcccaaactt aattttctcc tgaggaaaac tattctacat tacttaagta 300
aggcattatg aaaagtttct ttttaggtat agtttttctt aattgggttt gacattgctt 360
catagtgccct ctgtttttgt ccataatcga aagtaaagat agctgtgaga aaactattac 420
ctaaatttgg tatgttggtt tgagaaatgt ccttataggg agctcacctg gtggttttta 480
aattattggt gctactataa ttgagctaat tataaaaacc tttttgagac atatttttaa 540
ttgtcttttc ctgtaatact gatgatgatg ttttctcatg cattttcttc tgaattggac 600
cattgctgct gtgtctgtga catctgggtc tgctcatccc catccacaaa ctggaaaatg 660
atttcctatg taatcatgca tccaactggg ctgtgctatt tttttaaag gtttgatatt 720
gaacatgggt attcctcctt cacttcacct taacggaatg tctttatttg aattttattt 780
gtaaaatgtg tcctgtttta atttttcaat ctttaaaaat aatttttatg tacttttttt 840
ttttttttta cttttcttgc actctgggtc atgggtacca ctgcaatggc ttcccctttt 900
tttatgggat accaactgca atatggtcct caatgctgtt ctggccattt caatgactaa 960
```

tgccaaacat ctgtatgact aattttttta tgttaaaaaa atactgttta atgctggctc 1020
tatggtgatt tggttttact aaattgggtt tctcgttggg ggtggtcttt tgaatactgg 1080
gttttatata tctgctatt tttaacgtgt ggttttttc gatctctggg ttctaaaaga 1140
aatctttgga attaagagaa aaacaagctg aaaaggaaga aaagcagaaa acaaagaaaa 1200
tagaaacaag tgcagaaaag ttgcgtaagc tcitaaaaga agagaagagg taaactataa 1260
tattcagtat ttttaactt aaggcaacta ctgaattgaa cccaaagtgc catacggag 1320
gtaaagtaaa taaaaatatg aaagtatttc aagtgccaat cagtactgt taagaatctt 1380
tagcaaatat gtgttccatg tttttctta ttaaagagat gaagtggat ttaaggctag 1440
aattctacaa aaaaagagta tcttagaatt aaaatataga ataagttact ttaattatgt 1500
tttaggaaga aatatttttag aactagagca gtggttctca actaggggtg gatttattca 1560
cccggggaca ttgacaaga tgtggagaca tttttgattg ccataactga tagggtgcta 1620
ctgcatctag tgtataatgg tcagggatgc tcttaaacad attttaagt tggacgccat 1680
gtggatgcta tgaatgaata caataagct ttggaaatag acaaacaaaa cgtggaagct 1740
ttggtagctc gtggagcatt atatgcgaca aaaggaagtt tgaacaaagc aatagaaaaa 1800

<210> 34

<211> 1716

<212> DNA

<213> Homo sapiens

<220>

<223> nb1a20949

<400> 34

gttgtccaag atggagggcg ctccaccggg gtcgctcgcc ctccggctcc tgctgttcgt 60
ggcgctaccc gccctcggtt ggctgacgac gggcgcccc gagccgccc cgctgtccgg 120
agccccacag gacggcatca gaattaatgt aactacactg aaagatgatg gggacatata 180
taaacagcag gttgttctta acataaccta tgagagtga caggtgtatg taaatgactt 240
acctgtaaat agtgggtgaa cccgaataag ctgtcagact ttgatagtga agaataaaaa 300
tcttgaaaat ttggaggaaa aagaatattt tggaattgtc agtgaagga ttttagttca 360
tgagtggcct atgacatctg gttccagttt gcaactaatt gtcattcaag aagaggtagt 420
agagattgat ggaaaaaag ttcagcaaaa ggatgtcact gaaattgata ttttagttaa 480
gaaccgggga gtactcagac attcaaaacta taccctccct ttggaagaaa gcatgctcta 540
ctctatttct cgagacagtg acattttatt tacccttcc tacccttcca aaaaagaaa 600
tgtagtttca ctgcaaacca ctagccagta tcttatcagg aatgtggaaa cactgtaga 660
tgaagatgtt ttacctggca agttacctga aactctctc agagcagagc cgccatcttc 720
atataaggta atgtgttagt ggatggaaaa gtttagaaaa gatctgtgta ggttctggag 780
caacgttttc ccagtattct ttcagttttt gaacatcatg gtggttgga ttacaggagc 840
agctgtggta ataaccatct taaaggtgtt tttccagtt tctgaataca aaggaattct 900
tcagttggat aaagtggacg tcatacctgt gacagctatc aacttatatc cagatggctc 960
agagaaaaga gctgaaaacc ttgaagataa aacatgtatt taaaacgcca tctcatatca 1020
tggaactcca agtagcctgt tgctccaaa tttgccactt gaataataat ttctttaaat 1080
cgtaagaat cagtttatat actagagaaa ttgctaaact ctaagactgc ctgaaaattg 1140
acctttacag tgccaagtta aagtttacct tattctcggc cgggtgcagt ggctcatgcc 1200
tgtaatccca ggactttggg aggccaatgc gggcggtatc cgaggtcaga tcaagaccat 1260

```

cctgccaca tggtgaaacc ctgtctctac taaaaaaaaat aaaaaaaatt agctgggtgt 1320
ggcgggtgcac gcctgtagtc ccagctactt gggaggctga ggcaggagaa ttgcttgaac 1380
ccgggaggcg gaggctgcag tgagccaaga tcacgccact gcactccagc ctgggtgaca 1440
gagcgagact ctgtttcaaa aaaaaaaagt tgaccttatt ctctaaaagg gctggctatt 1500
catatgatga attgtaagg aaaacttaaa gtggaagaga acacatgtga agagactttg 1560
aaattatcaa aagaaaaaaa aaagaccaga caaatctca tgtgccata acttttcaag 1620
gtgcctttgt taaggaaatt atatccactt aattactata atatataaga ctttatgaaa 1680
agcactttat aaaattctaa tttaaaaggt caaaaa 1716

```

<210> 35

<211> 2442

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21251

<400> 35

```

ctcctgagct ccacctaggt ggtttttaat ttaaccaaca gccatgttga caaaagccaa 60
caataagcat gtcttattct agccctgac ccaacactga aagcgaagta ctttataaag 120
aagccagcaa ttatgagggt ttctttatgt tagtagggga aaaaatggta ataaaagtac 180
cagtgtagca agtgaagacc aaatttatag cactgtgcat tagatagcaa aatcaggttc 240
ttaacaatga aaagtaaacc tcaagtttct aaatccatat gcagatgggt aggctgtccc 300
tctcttagca aatctctcag cctccttctt tccaagtgc caaggatccc tggagtaaag 360
ctctggggtc tgtgctctct ttctgtgagg ggaaggctgc ggccctattt gcccctctct 420
agcaaacacc cccaccacc tgccgcttcc tgtggttatt gagccagcta ggagtactc 480
atggactcta acctggtttt agtcccatgt acatcggtgt tttaggtttc atactgaaga 540
gccaatgggt tatgtggttt tttctgtct taaatataag tttcaaggaa gggaaaacaa 600
aagtataaaa atgatagaac agtctagagg ccactgtaaa gtcaccgcca ctttacgtgt 660
atgtcagctc tgggtgttct gtatgagtaa aatggatgta aaatcataaa atcacagtga 720
atgtttcagg ctacactgga aaaagtatgc acttagaatt aaaggaaatt gtataattca 780
ccaagatttc tttgtgtaga tcaggggttg gcaactatga cccacaggt aagactggtc 840
agcggctctgg tttttcacag ccattgagcta agttacctt ttaaagggtt atataagtaa 900
ttacatcata tttttgattt tgcccttggc ccacaccaca taaaatattc aatacctggc 960
cttttttttt tttgagacag agtctcgtc tgtcaccag gatagagtgc actggtgcga 1020
ttttggctca ctgcaacctc ttctcctgg gttcaagcaa ttctccctgc ctgagcctct 1080
aagtagctgg gactacaggc acccactacc atgccttgct aatttttgta tttttaatag 1140
agatgggggt tcacatgtt ggccaggctg gtctcgaact cctgacctca ggggatccgc 1200
ccgcttggc ctcccaaaact gctgggatta cagtgagcc actgcgcca gccaatacct 1260
ggccttttaa gaagtgtgct gactcctggt atggatgaca gaaaatggaa taacgttttg 1320
tttctccagt ctaggaaaag caagtcagggt agtggataga ctgactggcg tccggggagc 1380
ccagggtatg tgagggccac gtggatggaa gcaaatgcct cctgcatagc cttggctct 1440
ttgtccact tgggaggagt ccatggatgt aatatttaca aaacaatttt ttcctacca 1500
tttgagaaa gcattgcata tatttccttt tagctcagga aactggcatg cccaccctc 1560
tgctactcca tcagatgtaa atacaatgac tataagccgt acaactcccc tctcttagaa 1620

```

acctcagcag gaccacagag caagggagtc aaagctttct taattctctc cagtaaatga 1680
 ctcaactaat ttgatttttt taattaagtc aaaatatcaa gagaaaaatt gctactaaaa 1740
 cttacatttt gatccacact gatgtgcaac acaaaatgaa agttttcacc tccattccat 1800
 tttttaaaaa ttcacgggcc aactgaaac ttgctgggtt ttagcaggag acaaagggtg 1860
 caccacgct gtcctcatcc tgctctctct gtcccagtga cgctccagca tatgatcact 1920
 gcagccgggc cctggcccgt gccgattctg ccacctccca gccacacaca ttgcagacc 1980
 cacaagaaga actgtagcct tgataattc agttcaggct ggaaaaatgc catgcaataa 2040
 tctggtttgc tttcagtaag taggcaacaa gtgaaaactg tataatttc atcacctatt 2100
 ctgctgttct atctaaaatg agtgtaacct tggtttgtga actgggccct tgtttgtgcc 2160
 agatccttca aagatgttcc ctgtcaggac acctgtggcc ctgccctcc tcagacacct 2220
 tcccactggc attcacgttc cttatatgca gtgttagcca tctttggcct acgtggactt 2280
 tttttgtaaa ttacaccatt tccagacatt aaacttttta tattatgaaa ttaccatgt 2340
 aaaaagaact tcatattttt attgagattg ctaaggcact tggccttcc cttttgtgat 2400
 tttcagtgc tattaagca tgagttccct cagttttaaa aa 2442

<210> 36

<211> 1731

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21334

<400> 36

attaaattca acaataaatt ttatatgaat gatttggtaa aatgaatatt ttaaaaaccc 60
 accaaaaaag taataggga ctctcatata tgctcacaca caagataaaa tgcagacagt 120
 ttttaaaata aaaagccaat accagcatgt tctaataatca tagagcagat taaatgaatt 180
 ctagcaaagt gcatttttga ttgaaattt ccaaaagctg ctagcatact tcagggtcac 240
 acttatattg gctgggttat tcccttttaa tagctatcac acacacgaac acatttaaaa 300
 taacatatcc ataaagtac attttgggtc atgtttctta ggtttttgac acaagtagca 360
 agagaacatt gaactctact ttgcagagca cagaatatcc ttcctcttg ctaataaagt 420
 gagcactcac ataagttaaa cccaccagag ttatacattt ttcactaaaa aacttgcagt 480
 aaatgtctgc ttgaagagga gacagtaaat taatcattaa tttagatggt atttggaac 540
 tctagtact gtatttctc tgttcatttt cataataaag gatactgac tatgcagct 600
 aaagagaaat gatccctaga agtttttaga gataaacatg ggaattgctg ttatatatgt 660
 tatatatgtg tttatatata ttacatctgt atatatgaat accactaaca taaataggct 720
 ggtatggaag caaatataaa cttttgcatg aaaaaagttc aggaattga agcatggat 780
 ttcaaaatag tgattttttt aatcttgcaa aaacttgga ttatgcgaat ctttttgagg 840
 agctctaagt tagaatttgt ttgttttat attttttaag ttctcataat cataatttct 900
 tgaaatactt atataactat gaattttgc aatttaattc ttaaaagatt attggtttgt 960
 cttcctaagt gaaggatata gaataaatgc ttttaacaat catatttgaa gttgaattcc 1020
 aaacacaatc tagcaatc atactgtgac cttcactgct taccattctt acttctcaca 1080
 ggagtaaaat caagctggag ccatcaagaa tgcagctctg gtgttttta accagccaga 1140
 ggctcgtgcc accactttta cccaggttat ccaagcaagt tgtacatgta caatcacgtt 1200

ctaaataaat ttgactggc ctgcatgcta ctcagctatg ttccttcccc tgccatggca 1260
 aggaagtgt agacttgccc agctgctctc tgctgaatcg tgtgacacat cacagcatgg 1320
 tcaggcgaga tgggcaatcc caacatcata tttaattctg ctaatgagtt ttctaattta 1380
 gtcttttagcc ttttaaaacc aattgcatgc tctataggat ttgtaatatc tattttaaaa 1440
 catgatagga atgtttatgg ttcaatatag tcagggatgt aggaggggcat gcattttttt 1500
 gtttctctgc ttttatttca ttaaaataag accacaactt tttattgttg attcagcctt 1560
 tataagtaaa ttgtattacc aaaataagcc tcacagggtt ttttctgat agtactgcc 1620
 ctttcagatc attatattca gatctatgaa tataattttc agcctatcca attcatgtgc 1680
 tccagatgaa aatgtttgct ttcatgtttt gggggaaagg ttctgtaaaa a 1731

<210> 37

<211> 3077

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21356

<400> 37

gactcggatga aaaaaatgca ttttccctg gctgtttgaa aatttactta tttgcagata 60
 agtctagatt tagtcttggga gatcaaagtc ttttatattt taaaaactta ttctttatat 120
 tgatcaaaca tggcatatgt tagagaacca cttcttctgt catgtttatg tattttggaa 180
 ttaagttgtt tgcattcact ttcaaaatct gccatttct gtttatgtgc acttaccaca 240
 gatgtgtcgg gactttgcct caggggagag gtactttagc acctgtgtca ctgaggagat 300
 ggagtgggtg acaagtactg ttgcgctgtg taacttgggg tttggccctg tggacaatat 360
 attagcagaa tgataaccaca caaaagtatt acaggattaa ggcatgtaac ttctatggta 420
 gtccttatgt atcagcgtat acccaagttc agaaaccaca ggtgcatttt tagacctta 480
 cttagagaac taaaggcagt tccaaccatc agcccatatg gcgggattaa tgcataaaaa 540
 ccctcagagg gtgttgggac atcctacttc cctgtcctca ccagtgga ctctggtgtg 600
 tgccttgagg ataaggaagt agagtggaaa ctcatactat cattagatg tctcaatatt 660
 ttggccttcc ctctggaatt atgagaaatt taacaaagtc tcaggaacct ttagaatcca 720
 ttgtccaaca ctgctagaaa aactgttaga ggtacatgga gaattcctat agttcttagg 780
 taagtgaag acatggcaca gggatcccta tccacataaa ggggaatctg gatgctgcac 840
 acctcaattc tgagaaatcc ctgactgaac ttggaattat gacagtaaag ttttcgtcct 900
 ttagttttct agagcagctc acagaaattt taaaaagtaa aacaaggcca ggcgcagtgg 960
 ctcatgcctg taatcccagc tctttgggag gctgaggcgg gcagatcacg aggtgaggag 1020
 atcgagacca tcctggctaa cagggtgaaa ccccgctctt actgaaaata caaaaaatta 1080
 gtgggcatg gtggcggcg cctgtagtcc cagatgctca ggaggctgag gcaggagaat 1140
 cgcttgaacc tgggaggcag aagattacag taagccaaga tcgccccact gcactccagc 1200
 ctgggcgaca gactgagact ccgtctcaaa aaaaaaaaaa aaaaaaaag taaaacaaaa 1260
 ataaagtcta tgccatttaa gacgtcttct aattcagttg tgattgtctg ctctactta 1320
 aaaaaatatt taagcttgat gttaattat tccctttcag caaatitgga tcagaaaatt 1380
 aaagtatgtg acaagatcag gtcacctga atttccacac aatctcaaga cactgaatag 1440
 caaaaaagta acattacata gtaatgatta ggatatttcc ttagactttg ctggatcttt 1500
 ggtcttaagg taacatgtaa aagtagtgaa gccttcctt tcatggccct gtgcaatgta 1560

acgggttttct gcctcctctt cagctggaag cgttagtggg agtatgggca cagaatatat 1620
 gtacactggc gatgctgacc atgcctccca ggtaccctgg ctctgggttc cttgacctag 1680
 ggaacaagat tggatgaggc agatctttga gcccatgtga ctatagaatt tgctgatgat 1740
 ataattttac aataacaatg gataggaatt ttacctctct ttttattagt ttaatattat 1800
 ttaatattat gtacataagt gttcactcgc ctaattaaaa acattgagta aaccaagttt 1860
 ttatatagac tacccttgcc atatgatgct ctttttctct aataatatgc agtttaaate 1920
 ctgaggaate aatgcccagc atttcaccac atctgaactc tgttggggca ttcttcaate 1980
 gcctacaagg ggtaaacaag gctaccagaa ctggaatttg acttataggg agctaccag 2040
 gaaggggaaa gcccttgga ctttttccaa aacaatcttc tatttgaact gttcatcagc 2100
 caaagtagtc cactgaggtg acaaagcttt cagaataaca aagatgggaa gataaaggta 2160
 acactggccc acttggggct ttgacattgg attgggtgga ctgaataaac acagcctagg 2220
 tggcctgggc ttgagcctca cttactctc cttgatacat agttcctggg ctacctctg 2280
 acccttttct taaaatagcc agtgtctatt tcaactaggc atttacttac aagttcccag 2340
 cttttaggga aaaaagaggg aggggggagc atctagtgtt gaattagata tacatcttag 2400
 aagtaatgag ctattggcag ctgttaaate agattcagcc acaaaccaga attctttctt 2460
 gttgaacaag accaatgagt tagatgactt taataattcc acttttctct ccctctcttc 2520
 tcctcttctt gaaatcagag agatgagaaa ctactcttg aaatacctcc agaggcggtt 2580
 tattgtgttc ctttccctc caagcagctc cttttatata attttgctca ggcaaccaag 2640
 gacagagtat cggcagaaac atggagtgtt ttgttatagg ccacctgtac ataaaagtgt 2700
 aattatttat ttaattttcc catttgtatc atattaaagc ttgttacagt gttttaagtt 2760
 ctgtttttaa attattttgt attttatttt tataacctag taataaaata ttcattccgc 2820
 atgcaaaate tagttctgtt tgtgtgatgg tctggatttc aaaagtggaa aatatttttc 2880
 taatttaata aagttattga atacaccaga tgtacaaga tcaacgggga gcagatagtg 2940
 ttactgtaaa tgcagtagca catctagaag ttccctagaa aaagcagccc aggactgaat 3000
 agaagctagg tgtaagtgt ccctgcagtt aggagatgtt ttctgtaat aaaattaaaa 3060
 tattaaaagc tcaaaaa 3077

<210> 38

<211> 2043

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21418

<400> 38

gcaagtaggg gcaaaaagac acaagcaaca taagtaagca tgtgtgcagt gtgttatgtg 60
 ataagtatta cataacaggg atgtgtgtca cagcggggaa gggggaagag ggtgagctgg 120
 gatagtgttg taattcagat gaggttcttg gggaagatct cactaaggag atgacattga 180
 ggaaagacct gaaggaggtg aggcagcaag ccatgaggaa gaacattcta ggcagaagga 240
 agaaagcaag tgcaaagact tcacctgag ggaggagcgt ttgaatgatt ttgcagaaaa 300
 acagagaggc cggtatgact ggacagtctg agtaaagaga agaattgagat gggatggatt 360
 cagttgcaag tgattgaaat gaataacaag cattcatcga tccaaggatt caatgaccct 420
 aagtattctt aggtagaaag cagggtgaca ggcagggtga aataaaatct tcctctattc 480
 tgtagagctg tgacttaacc tticagtctt gtgaaaatat gtatttattg gtactgctgg 540

acagttttcc tgctggctgt ggagagagtc ttggtgaaca gagaggcctg cagcaaaaga 600
 gtttagagat actttctact ctatagtaat cagacagaaa tgagtcattt tttaaattac 660
 agaggtggac accactttac ttagcaactg tccttttgaa aattagcttt aattttttt 720
 atttcagtca taatcacgga actataatta ctggaaagga ccttgtttgt catctaacc 780
 agctctcatt ttatagtttc ttaagaaact aaggtatgaa gtgtagctga aatactatta 840
 caaataaatc tattcactat ttaaaacagt attctcataa ggaatctttt gaaaaatata 900
 tataatccct taaatttata gtttcaaaaa tgttttaaaa ttttatgaa gtccctacta 960
 tgtatttgac actattctgg catctgggaa ttcagccaca attaataagg tagatttcat 1020
 ccctactcag tcagcattta cattgtgctg tgaggtggga gtagggctag ggagagctgg 1080
 gagtagtatg tatagatgac aaaccagtat gttaatatat ggacaaaata atttcagaga 1140
 aagataagtg atataaagac aatcaaagca cagtgatgaa tcagaagaat tagaaagtac 1200
 cagagctgtg gccatgcagt gccgctctga gaaggtgaac tttgagcaga gaacagatcc 1260
 accttcagga gttagtggta tgggaatggc atggggaggg gaccagggtt tccagtcaga 1320
 gggtagagcc agcacaaagg cccgagcttg ctgtgttcaa agaacagaca aaaaaaccgc 1380
 atggttgaag tgtaattggag gtgtgatatg taagatgggt gtggagaggt gcaaggtggc 1440
 cagccacat ggggcctctt aaagactgtg gttagacagg tctacgaaa tgtcagaaag 1500
 ctttcaacag ggaaatgttg acatcaggct tcatTTTTca gaagatctgg cttctgtgtg 1560
 gagaatggac tatgttggga caaaagacga agtgaggaga ttagatagat gccatttata 1620
 ccagctccgg caagagaggt tgaggcttat gcttggttag cactggaagt gaagaagtag 1680
 gagcagactg gattcttttc tatcagattt ggagtacat tagccgtata aatcattgtg 1740
 gggcggggaa tgccctgtgc cgtggctcgt gcctgtaatc ccagcacttt gggaggccaa 1800
 ggttgggagc attgcatgag gccaggagtt ccaaactagt ctgggcaaca cagcaagacc 1860
 ctgtttctac aaaaaataa aattaaaaat taggtagacg tggtcacatg caccagtagt 1920
 cccagctact gggaaggcta aggctggagg atcttttgag cccaggattt tgaagctgca 1980
 ctgagccgtg atctcaccac ggcactccag cctgtgcaac acagtgagac cctgtctcaa 2040
 aaa 2043

<210> 39

<211> 1181

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21480

<400> 39

atatgcaacg gtcagttcct ttagatatat ttactagct ttcctttttg gtcagtctgg 60
 aaagaattcc agttcttttg ggggggtggg agcagaacaa aatgaaaata actactattt 120
 agatttataa tgtttttacc atttctgaa tccttggaact gttttctgtt tgggtgctcc 180
 acactatagg attcagtttg agtatttggg taccatccat ccctccaga aggtaagctg 240
 gttgatgcaa cttttgtgga taataagtgg ctctgttctg gttgatgggtg tttctgagaa 300
 gtatagacag agaagctgtc taaacataag gaacaaagtc agtatcagtg ttacatgaac 360
 tgtgaacatc atctggaagc caatgaatgg atccctattg tgaagtgagg cgctcaaaga 420
 gatgtatcat actttgatct taagtaaatg tgctggttcg ttccacattg ctctgccttt 480
 ggagcagtct gtgatgaagg tgacctaaaa agtgagcacc attagaactt gattgctgtc 540

ccaaaccatc atatctttaa aaatcctatg atcttcttag ttatgcaggt aattgaatac 600
 cttgttaaat accaggaatg taaatggcca gaaacctaac agtgtaaaag agtgaaattt 660
 attagtagtt cctctcataa gactattttg taaagaaata actagagata tgtttgatat 720
 ttatagcaca ttcatigcaa ccattaaaaa tatcaaaatt gattatgtgg gaaaatgttt 780
 aatgggaatt gctcagtttt tttccataaa ggattataga atatgttcaa tatgatccca 840
 ctttttgaaa atactcagga aaaaaggatg tatacccagc tgggcacagt gactcacacc 900
 tgtaatccta acactttggg aggctcagtg ggaggatcac ttgaggccag gagtttgaga 960
 ccagcctggg caacatagtg ggactacatc tctacaaaaa aaaaaaaat atatatatat 1020
 atattagctg ggcatggttg tgcatacctg tagtcccagc tactcaggag atctgaggtg 1080
 agaggatttc ttgagcccag gagttggagg ctgcagttag tgaggattgc accacttcac 1140
 tccagcctgg acgacagagc aagatcctgt ctcaggaaaa a 1181

<210> 40

<211> 2312

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21509

<400> 40

aacgatgacc tgaccaccaa gccaccatag gaaggagcca cggagctgcc tcctaggcca 60
 ggatccagaa cgagccaagg gaaggccgag atatccccag ggtacctctt ctcagcagca 120
 caaagaggag tttattttca aagacagtgg aagctggaaa agataaaaagc cttgaaattg 180
 aaatgcaaac aggagagccc tgccagaaca aggctgtgtg tctttcaaac cccatctgag 240
 aaagagaggc tacctccaca gagctgcgtc agggcagggt ctggtcacct cctgggacaa 300
 acaggaggaa gctcgcatgg ggaccaccac ctagagtggc agcccaggcc tgggtccccg 360
 ccaccgaagg gtccgcagag cactcctggg catcctcagg tgcatgcaa gatttcagaa 420
 agcgttacag aagtgcgcga tccttacta cagccaagat acggaataa tgtaactgtc 480
 tgttgatgga caaatagata aagaaaattg atgtatttac acaatggaat actttttggc 540
 catgaagaag aaggaaagtc tcccatttgt gccaacctcg atgaaccagc aggacaggat 600
 gctaaatgaa atgaccacag cacaaaaaga tgcatacac atggtcttcc ttatacatgg 660
 aactgaaaaa agctgaactc acagaagcag ggggtagact ggtggttgcc aggtgctggg 720
 agaatgggg agatggtgtc aaagcatgca aacctccagt tgtaagctgg taagttctgg 780
 ggatctagca tgggtattat agctaatagt actgcagtgt ttacttgaga cttgctgaga 840
 ggggtggacag taagtgtcct caccacacac atgcagaggg taaccatgct ggggtgatgga 900
 tgtgttcatt agcttgactc agtagttatc cgtgcacaat gtctatgtct attgaatcat 960
 cacttgtaaa tcttgaacat acagtttctg tgtgtcaatc atacctcagt aagctgcggg 1020
 ggagtgcac attcaccact ggccatcagt aagactggac aggaccacca aggcagacat 1080
 aggggggcta gaaaccctaa agtcagatg gtgaccctac ttaccacata cagataacag 1140
 agactagaag aacaatttga tcctcttcat gatgcacttt ttttgaaga caagtctttt 1200
 caaagagaaa gatgacaata ataacgaaaa cgcccagag gacacaaatt tggaactacg 1260
 ggcctcaagg aagccacaac acctggtatt ctcagcattt cttgggtccct gacagacctc 1320
 tttgaccaac tgcttcaaac tgacacttct tctttctgtc acctcagata aatcatttca 1380

ccgccctaaa atgcaggctt cttcatttgc agaagtagag agggagactc tgtgcactcc 1440
 ttctgtgcct cgcctgttcc tccatgggat cctcaacacc cttcagcttg tggacagcag 1500
 cacacgagga cactgagcat tctgtttgag tccctctagt ggctgctgaa tggcgtagt 1560
 actcatgtgg gcttagcgag ggcaggagct gtctcacggg agactgcccc ccacccgcct 1620
 tccacaaatg ggggagaagc aggaggcagc agcaggcatg tgcgtggtct atcacggccc 1680
 ttttaaaaac tgcgtttaca gaaaatgtca aactgcacag gaatagagag gaggagcgtg 1740
 aaccagcgtg tgcccatcag ccagcttcag ccactgtccc ctctcagcca agcctccttc 1800
 cctcggcagc tgcccatgct cacacccttt atgtccact catattattt ttgaatcaaa 1860
 ccacagacat attaccattt catccgtgaa tgtttcagtg tacatctctc aaagatagga 1920
 tgactcattt ttataaatat aactataata ccattgtcac acctaaaaaa cttcacaatt 1980
 tattatgta catttaccga ctcagtccc taaggagcgg tcacacagct ttcagtgtg 2040
 aacacaacct cttctcattg ggaacatgag gaggggaagg gctgtgaaca cctaaagtga 2100
 gcagacagc tgaaccaaag cttggatttt cttccgtgac aacagctggg tctctgcgct 2160
 ttgaacacac tcgtgatcag cagaggaaag tcaagttcag catgtctggc ttcatacttg 2220
 tggagaggag gtggggtaac aataatgatg ataatgctat taatagcaaa ggtggaggaa 2280
 ttaataaatg accactgtgc caggcgcaaa aa 2312

<210> 41

<211> 2764

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21527

<400> 41

agtaaagaat ctaaagtagt aaattttatt aatatgacaa gctgaaaaat aattataagc 60
 tttattacta atttgcttga aaaagcaaac aatgaaatga ctattgatta tgatcttaag 120
 agatgagtagt tgttttttct ctaggattta taaagatgca tcagagttca tctatagaag 180
 gacaggtagt gtttgggaag catctataat tctctttgtg aaacatcagt aagtctattg 240
 tagtttaaga aagtttcata ttactattat tttagttttt atctctaaaa ttctatgaaa 300
 ctttttgaag tataaaaataa atatttttaa aagaaagaga acagaagtag cttaaatgat 360
 catattttac tcttaatgca cttttaactt tctcaatact atatttctct ctccatctgg 420
 ggtacgggta aaaaagagcc ttcctaacac ctcaggaggg aaagggaac acagggcatt 480
 ggactcccca tggaaatgaa agagtagctt cagcatttgt aggatgatta ggatgagact 540
 gtgggggtga ctgaagaatc atcaattaga gagggtggtg aaaacaaact tctagaaaga 600
 tttgggttaa ctttaaacca ttgtaacaat tatctaatac acgtgatgtt tttctagcga 660
 ttaaaatcaa gtggaaaaat ataactatca aatttcaaat ttttcagag tcatgcatat 720
 tgatcatcag cccatatttt caatctgctg gtgcttgttt tcaaccaaga tttaccatgg 780
 ggctaaccat gatgtcactt gctattagtt aacctctgta cttctttact tatagttggt 840
 ttaacaagc aaaagctcat agagtattt aaattatatt ttaatgatgg aaattccaag 900
 agctctttca catactgtaa ttatctgcca taaagaagag taccocgttg gtgctctggg 960
 cttgcatccc aacaccacca cttactggct gtgtaacttt gggcaaatta tttactctg 1020
 gttttccttt atctgtaaca agggcatgta atagttctac tcatttggtt gttatgaggt 1080
 ttctgcgcat tcatctacat aaagtgtgta gaatcagacc aagcacatag aagtaccatg 1140

aaagtgttca ttatggatga cggatgatgc ggagtgcacat tgtatagtta taagagttgc 1200
 tattatggct acataatatc cttcacaatc tttcaagtat ttctaacaat gttgtgccaa 1260
 aatatttgct aaacaaaact taattcactt ttgtgttgga tgtgttgta tgtttctcgt 1320
 gtcctgtgcc actgagaagc aagtcaaagg aatggagcca agtaattgct ttaaatggct 1380
 cagagatgag ataatggatc cagtcaatgt aaccacaggc agtctaaagc cagggtgtac 1440
 accacaggcg tgggtgccaa tatcagtgtc gagacagaga tagaaggagc agcgaacaa 1500
 atgtttaaac agcaggctca gcaaggctca acagagaaac aaaatgtttc tagaaattac 1560
 aaaatcagag actccatcac ttggcccata catgtcaata gagtgttga ttaattcag 1620
 aaataatttc caactatgct tttctctgca ggtaaatgct agtaagaact actccatggc 1680
 taatttgctc ttcagagtaa actgaactaa tactttccaa gtgcaagctg cctcaagttg 1740
 ataaatgcct aaatttccaa aatactacaa ccaaagcaa agttttccag ttctccagat 1800
 acaatttttt tatagatacc tcaacatgca caaaactttt cttgttgct gttgttttt 1860
 gagacagggt ctgcctctgt caccggggcc agagtgtaat gatgtgaaca cagctcactg 1920
 cagcctcaac ctctgggct caagcagtc tccagcctca gcccccaact agctggtact 1980
 acaggcctgc accactattc cttagccaatt tttgtatttt ttatagagac ggggtcttac 2040
 tgtgttgccc aggtgggtgt tgaactcctg ggttcaagca gtccaacttc cttggtctcc 2100
 caaagtgtca ggaatacagg catgaccacc atgcctggcc acagaaaact cttatataaa 2160
 aatttccaac aagtatgaaa gagtgtttaa atactctcta actcttcatt tactatttaa 2220
 aataacaaaa ttgtaacttg aaagtggat aaaaaaactc aaatgagaaa taatgtctca 2280
 acaaccgttt cttactatga aagaaaattc aatatgatct tttcacacca tataagacct 2340
 tattttgccc ttgtttataa cccactttct ttggggggcc acatgaataa acatatttga 2400
 catatatcca tagtctgaat taggacattt ctattcttgc ttgaagaatt tgatgtttag 2460
 aaaaatttct cagcactggc caggcacggg ggctcatgcc tgtaatcca gcactttagg 2520
 aggcggaggc aggcagatca gctgagggtc ggagtgtgag accagcccaa ccaacatgga 2580
 gaaaccctgt ctctactaaa aatacaaaat tagccaggca tgggtggcaca tgctgtaat 2640
 cccagctact caggaggctg aggcaggaga atcgcttgaa cccaggaggc agagggtgca 2700
 gtgagccgag ttcgtgccat tgcactctag cttgggcaag aagagtgaag ctccatctca 2764
 aaaa

<210> 42

<211> 2141

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21551

<400> 42

catatgaaaa aaccaaagtg ctttatttaa tcaccgggtc tgcggattgt gttgaatcaa 60
 ggtgtcagtg attctaggtg gttctgtctc cccctaaact gagacagagc agatacttca 120
 ggaaaacgtg gaagttggtc cgtacttcta caatcctact ggcccagcct gacccccatg 180
 tgacagcttt gagagttttc atgcagttag agacaaacac aggtcaatga caacaactac 240
 agcatgtgat gtgtgtttaa tgatctaagc actttcagag cttttcaaaa actcagggtc 300
 tgtgtgtctg ggcactgtga acttgaaaga aagccttcac cctgtccctg ataaccctgt 360
 gttgtcctca gatgagccca tgtctaaagc tcccatggcc aaagacagtt accagcttct 420

cacctagccg gtcacctctg tctaacttgg tatgatcact gacaactttg gccaattaat 480
 gaagagggtg cctcaaatg ttcaggaact cgaagacac atgtctgaag gggctaattg 540
 tagtgatagg aaactataaa agtaaggatg ttggattaga agttagctga tcatcaggag 600
 atcaagacca gcttggccaa catggtaaaa ctccatctct actaacata caaaaattag 660
 ctgggtgtgg tgggtgtgac ctgtagtccc agctactcag gaggtgagg caggagaatg 720
 gcttgaacct ggaaggtgga ggttgcagt agccgagatc tcaccactgc actccagcct 780
 ggggtgacaga gcaagactcc gtctccagga aaaaaaaaag aagaaatcag ttgactgtac 840
 tacctttact ctcaatccag ggtcctatat tctagtccca cctacttatg tcttgctgtg 900
 ggaccaccag gaagtcttag ctcttaggg cccagggact tttactgct aagtttaagt 960
 aacttgattc ggatccgttg tggttccac agccttcaaa tactgtggaa gttttaattt 1020
 aaatcttcag ataaactctt aattttttag aactccttga tttaaataaa acatgtcggc 1080
 tgggcgcgtt ggctcacacc tgtaatccca gcattttggg aggccaaagc gggcggatga 1140
 gtgaagaga ttgagatcag cctggccaac atggtgaaac cccgtttcta ctaaaattac 1200
 aaaaattagc tgggcgatgtt ggcgcgcacc tgtagtctca gctactcagg aggtgaggc 1260
 aggagaattg cttaaccgga gaagccagag cttgcagtga gccaagatcg tgccactgca 1320
 ctccagcctc gtgacagagt gagaccccat ctcaaaaaaa aaaaaaaaaa gaggatgagt 1380

ttcttaccta gcacaagatt aatttttctg atgtgagaaa aatgtacctt catagatttc 1440
 caaacagaat tatggctttt gaacatacag gtactaaaat ttaaaaagga tttcattttt 1500
 ctcaatttgg attagatata ctgattgctc tcaggcgcaa acgaatttta atttagttct 1560
 tctttttctt aagtgggagt aagcttttct acctaattta aaaaatgaga agacatttaa 1620
 tttagctttt ctcttctact caaagatact aataaccata ctatttaa tctaatccc 1680
 ttctttaag aacttcaaaa ccaaggagga aattaaaata ttttaattca tttcctgac 1740
 tcaactatca taatagaaaa agattcttag attcagacaa gaaagataca aaccttagga 1800
 gaatttcac agtttatttc caaatttttag gaaacttgat cctggaatgt tccttcattc 1860
 ttcacctata atttgtaaca atgtgaagtc acaactgttc cataaatcct gctcaaacca 1920
 ctctagtccc tagtaatctc tctgtccctc caaattcaaa caataaatgt agcccaaacc 1980
 tttcatttcc caaaccaaac agcatagatc ttctaaactg acatttgtct atagtgaaga 2040
 actagtctct cccctctccc tccaatttca ttgcagacca atacttttgt taaagaagga 2100
 aataatcaaa atgagttacc agaagaatga aacaggaaaa a 2141

<210> 43

<211> 2761

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21735

<400> 43

tagctggcgg ctccgagcg cctcttccaa agatggtcag aggggcccga ggcgtccccg 60
 ctcccgtctg ctactagccc gcgggccagc gccgcgtccc gagccccggc gggagccatg 120
 gctctaaaag gacaagaaga ttatatattt cttttcaagg attcaacaca tccagtggat 180
 tttctggatg cattcagaac attttacttg gatggattat ttactgatat tactcttcag 240
 tgtcttcag gcataatttt ccattgtcac cgagccgttt tagctgcttg cagcaattat 300

```

ttaaaggcaa tgttcacagc tgacatgaaa gaaaaattta aaaataaaat aaaactctct 360
ggcatccacc atgatattct ggaaggcctt gtaaattatg catacacttc ccaaattgaa 420
ataactaaaa gaaatgttca aagcctgtct gaggcagcgg atctgctaca gttcctttca 480
gtaaagaagg cttgtgagcg gtttttggtta aggcaattgg atattgataa ttgtattgga 540
atgcactcct ttgcagaatt tcatgtgtgt ccagaactag agaaggaatc tcgaagaatt 600
ctatgttcaa agtttaagga agtgtggcaa caagaagaat ttctggaaat cagccttgaa 660
aagtttctct ttatcttgtc cagaaagaat ctcaagtgtt ggaaagaaga agctatcata 720
gagccagtta ttaagtggac tgctcatgat gtagaaaatc gaattgaatg cctctataat 780
ctactgagct atatcaacat tgatatagat ccagtgtact taaaaacagc cttaggcctt 840
caaagaagct gcctgctcac cgaataaag atccgctccc taatatacaa tgccttgaat 900
cccatgcata aagagatttc ccagaggccc acagccacaa tgtatataat tggaggctat 960
tactgcatcc tttatcagag gttcacatat gggatccttt gacaaatgtt tggattcagg 1020
gagcagaaat accagattat accagggaga gctatgggtt tacatgttta ggaccaaca 1080
tttatgtaac tgggggctac aggacggata acatagaagc tcttgacaca gtgtggatct 1140
ataacagtga aagtgatgaa tggacagaag gtttgccaat gctcaatgcc aggtattacc 1200
actgtgcagt caccttgggt ggctgtgtct atgctttagg tggttacaga aaaggggctc 1260
cagcagaaga ggctgagttc tatgatcctt taaaagagaa atggattcct attgcaaaca 1320
tgattaaagg tgtgggaaat gctactgctt gtgtcttaca tgatgttatt tacgtcattg 1380
gtggccactg tggctacaga ggaagctgca cctatgacaa agttcagagc tacaattccg 1440
atatcaacga atggagcctc atcacctcca gtccacatcc agaatatgga ttgtgctcag 1500
ttcgttttga aaataagctc tatctagtcg gtggacaaac tacaatcaca gaatgctatg 1560
accctgaaca aatgaatgg agagagatag ctcccatgat ggaaaggagg atggagtgcg 1620
gtgccgtcat catgaatgga tgtatttatg tcaactggagg atactcctac tcaaagggaa 1680
cgtatcttca gagcattgag aaatatgatc cagatcttaa taagtgggaa atagtgggta 1740
atcttcccag tgccatgcgg tctcatgggt gtgtttgtgt gtataatgtc taattgaatc 1800
tgcagaaatg accaagcaat cacttttttg gagtatagtt ttataaaaaa agaatgcagg 1860
gtttgaagtt cttacctga taattgtgtc tggcacatga taggggatca gtaaattgta 1920
attcctaacc ctactgtact cccaacatg gtgattcatg gtcaagaaaa atcttatata 1980
tatgtatata cacacatata tatgtgttca tatatatgta tacatatatg tgtatatata 2040
cgcatgtatg tatacatata tgtgtatata tacgcatgta tgtatacata tatgtgtata 2100
tatacgatg tatgtatata tatatgtgta tatatacgta tgtatgtata catatatgtg 2160
tatatatacg tatgtatgta tacatatatg tgtatatata cgtatgtatg tatacatata 2220
tgtgtatata tacgtatgta tgtatacata tatgtgtata tatacgtgtg tatgtatata 2280
tatatgtgta tataacgtg tgtatgtata catatatgtg tatatatgcg tgtgtatgta 2340
tacatatatg tgtatatata cgtgtgtatg tatacatata tgtgtatata tacgtgtgta 2400
tatatatata catatatacg tatatatgta tatatatata cacagttgaa tcagtgggat 2460
taataacctat aatctctggt tttcaaagg aatatggaat atttgacact tggtaaaagg 2520
tgaactacct ttgtagtgaa tcttttctc ttggtagcat caacactggg gataaatcag 2580
aaccattctg tggaatgaaa tgtttctcaa gagcctataa tatagtagat agtgcatatt 2640
aagatgtctg gctgggcatg gtggctcatg cctgtagtcc cagcactttg ggaggctgag 2700
gcgggaggat cacttgagcc tagaagtgg agactaacct ggcgagaccc tgtctcaaaa 2760
a

```

<210> 44

<211> 3851

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22247

<400> 44

aatttaattt acaggcttga ctacctcagc agtttacta agttcttgta cataaatgga 60
tgttttatta aagaagaaaa ggaaggggga aggggaaggag gaggaagacg aagaagaaga 120
aaagaagaga aggaaaggag gtgggaagga gaattcgtct ttttctgctc aatattatgt 180
cagtgaacc aaataatgtg tctcggttcc tccccctgag cattccaccc gggtaaaaaa 240
ggaactaage tcacctctgc tgagagaagc tgtgcatggc gagtggcccc cacacacctg 300
gctggatgac atctgagggc tcggaggtcc ctgctgtca gtgtgccagg atgggtccac 360
cgctctcaca ttacatttt tttatggatg atgcgtcatt ctgctaaggc agcaaaagtg 420
aaaacaatca atagttctac ccaaatacct gttattttta gaatggggcc agagtgattt 480
cttggctatg agcagctcag gagacactat ttttcgttgt ttaaatacaa ttgattttcc 540
ttgcttcaga acccagatca ctacaggagc tcctgggtgtg tcgagcttgg atgaatttgt 600
aatatgacac agtgatacct gtttgtttta ggacaccttg tgtgtaatgt cagtgttgca 660
ttactctgtg gtccaaaaac ttcaagtcca cactggagaa ggtgggggca gcctgtggac 720
agaggcagga aagaagggac attgttttga gtgcctgtta gctgttaggc acagttccat 780
gctcttttct gtaaaacagg ccaatgatat tggaagccaa gtttgtctgg ctatggagcc 840
cctgtttctc cactctacca ataatacaaaa ctacagtgag gaggttaaac caatacatgc 900
acacattacc aaaacaaggt ttcaaaaaca atatttacct ttacacaggc aatttactct 960
tattttacca gtccactacc ataataattc aattctttta aattatgggt gcaacccac 1020
taaattggcc tcataatcta ccattgtaac atggccact gtttgataca cactggagta 1080
caccttggtg cccttcacat ttttaaatga tgctatattg gacttggtat ccatgtgatg 1140
atcaagattg tatttgaaga tgttgcatag aaagtcccat cctatgattc agtttttca 1200
tctaagaatt agaaattata acatttattc ccaaaaattc tccagttgaa ttcactggag 1260
gtattcattg cctctcagag agtctgttac ttaaaataaa gacaattaaa attaagatag 1320
caagtatttt agcaacaaaa gccacaaaaa agaataataa ttataattgc tattgttagt 1380
aataattgtt gaactacaaa cctgccggcc actgctctat gagctttcaa tataactcat 1440
tcagttctca ctatcacttt atgaagtagg taaatattac tttcacttta cagccagaat 1500
tcctttatct tctttctcat aaatttctca ttctaaactg ttaatatata tctcagaaaa 1560
tgaatgagat tgtgactatg actcaagaaa tacgtatttc tatgcttggg ttaaataaaa 1620
tacaaaagcc tgtatcatct aattggcttg ataaatctca ctagcttttt aataatcatg 1680
aaatttaaat tttttttagt aaaactttca gaatacttaa tgaaaaatca gtatgtattc 1740
accttcaaaa aacacaaatt tccaggcata ataataatat ctgcaagtcc aaatgtaatc 1800
acgggtgccag ggtgtgttga ttcagcagct tatcactgtc actggggact cagattctct 1860
ccacctttcc actctcccat ccctcatcag ctttgtccta tgagggtgc acagatccag 1920
gtgtcacatc cagcatcata gtgacaagaa caaaggtctc tttctcagga gtctactaag 1980
tgtcccttaa atctgatta gcaatttcc tttgctaaaa atgagttata tgccaattcc 2040
taaactagtc actgttaggg tgtagaatca ctgtgattgg attagaaaag ctctgcctcc 2100
tggaactagg aatgatgttg tttgccctga agcacatgga tctgtgttca ggaagagggg 2160
tcttgcggga aatataatata ctgagtaagc agtgtctgat acaaagacga aaaatatctc 2220
ttttgacagg aagatttggg aaaatataaa gtagtagaat tatttcccat tatttaattc 2280
gtttaatgtt tcataaaaaat tagcaaacgt aatgaggaaa cgtatctgta agaattccact 2340

atgcatttgc tgtttgctct gaaatcaaca ggaccagtg ctttcattac tagaaagaag 2400
 aaaattaggt aggttaataa aacaaacatc tggaaagtat caacactcat aaaaataaat 2460
 ggaatcatcc tgtgtatata cttaaagccag gttggcattt gtcaacaact acagagaaaa 2520
 cactacagaa tttactactt ccaacttcct ggggtgggtt gttctcattc atttaacata 2580
 ttttcctaag tgaaaattta gtttttaggtt ttgaaatata atcatataag aatatgtaga 2640
 ctaatagtgt ttattaattt ttaataatgc ctacagtttc ccatatttgg ttgcattttt 2700
 cctgctatcc tattgcttct gagccacctg tccccctctc aaaaacatgc aagctgggat 2760
 ttttttcttt tcttttaact agatatcttg ccaaaatttc agactcatag taaagagttt 2820
 ttatttttca ccaacctaat tattaaaaaa ggagtattta gaatagctct aagaattctc 2880
 atacagcctt catcctcatt ccccaaatgt taacatttta ctacatttgc tgtatctatc 2940
 tctttgtgtg tatatgcaca gacatacaca gaatgtctat gccttatata cacatgtata 3000
 tctctgtgta tatatgtatg tatatgtgca catattttta atagattctg agttttctaa 3060
 tcctttgaga ataagttaca gtcatgaaac ccctttattt ttaaataact gtgtatcttt 3120
 ctaataaaga agaaattccc caatgaaaca acaaaagatt accaaaatca gaaaactagc 3180
 attgctataa tactcttctc taatttatag actttattca gatttcaata ctatttttat 3240
 ggtcaaaaaa aatcaaatgt catgggtcat gccctgaatt cagctgtcat ttctctttag 3300
 tcttctttat tctgacagtc ctttagtgtt ttcttgccag aatgctgtta atatcagtct 3360
 tcagtaaaac atattaagag aggaacatc atgccaaagc cagtggattt gtatggatgg 3420
 tggcttgagt gggattcgtc ctgcctttgc agccttcctc ctgcagggat aataggtgtg 3480
 agtacgtttc actattctct tagacatcct gacctgtacc acaaatgtga agggccaact 3540
 ggagaactag gtgatccaac agtttggtat taatcatctc atctcttgcc aatgaatagc 3600
 aacaagaaca tcccaaaaaca tctgaaatat ttctaaatat tctaaacatt tgtaaaaatg 3660
 tgggacatta tagaaaaaaa cttacaaaaa catttgtttc aatcactgca tgcttagatg 3720
 caatctttta aagtacttca agtaataat tagaatgggg atgttttaga ttggttaaag 3780
 gttcattatt tctgaaccaa tgtgcagaat ttggcttatg agtacaagaa taaagacatt 3840
 tggatcaaaa a. 3851

<210> 45

<211> 1863

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22477

<400> 45

agctgcaggc tccgagctgg tttattctgc ggccgaggat tacatttatg cacgaacggg 60
 ctacttggtt ccagattccc cacttgggca caggcatagg aggcttggtt tccaaattgc 120
 tggttttaat tgcacctgcc tttcagatta cctctgggaa tctgtgggag gagccgagag 180
 ggtgaaaaat gtttcttagc tttgcaaaag gaagaaaact ttgtcaccca gcgggagacc 240
 tcagccacga gtaaccggg gagacaccag aaccgggacg ggctttgact gatttgcta 300
 cgagggttcc gtaggaaagg acgcttgaat tcggcgcttc ggcgggcgcg gcggccgcgc 360
 gagtccctg ctacacctcc ctctccgcgg aagtccccac gaggtggctt cagggtgtaa 420
 cagagcgcg gcgtccagtc cgaaggcagc ggccggggga gggaaggagg ggaccgaacc 480
 cccgaggagt ttgcagaat caacttctgg ttagagttat gggaagcgcg gttatggaca 540

ccaagaagaa aaaagatgtt tccagccccc gcgaggagcg cggaagaaa aatgccagcc 600
agaagaggcg ttcgtgcgc gtgcacattc cggacctgag ctcttcgcc atgccgctcc 660
tggacggaga cctggagggt tccggaaagc attcctctcg aaagggtggac agccccttcg 720
gcccgggcag cccctccaaa gggttcttct ccagaggccc ccagccccgg cctccagcc 780
ccatgtctgc acctgtgagg cccaagacca gcccggctc tccaaaacc gtgtcccg 840
tctctacca ggagtccccg ccacgtccc ctgcagcat gagcttcagt gggatcttcc 900
gtcctctctc caaagagtct tcccccaact ccaaccctgc tacctcgccc gggggcatca 960
ggtttttctc ccgtccaga aaaagtaaga cttgatgtt attgtttcag cctccggcct 1020
ctcctcctct ccgtcaacac ccaccaagt gaccaagcag cacacgtttc ccctggaatc 1080
ctataagcac gagcctgaac ggtagagaa tgcctctat gcctcgtctt ccccccgga 1140
acagggcaga ggttctgccc gtcttccttc cagagcccga ccaggcctcc actggcatca 1200
ccgacacact atgtccctc caaagccgcg gcgtggcgg cggccctggg acccgcgga 1260
gccggcatgc tggagaagct ggagttcgag gacgaagcag tagaagactc agaaagtgg 1320
gtttacatgc gattcatgag gtcacacaag tgttatgaca tcgttccaac cagttcaaag 1380
cttgtgtct ttgatactac attacaagtt aaaaaggcct tctttgctt ggtagccaac 1440
gggtgccgag cagcgccact gcgggagagt aaaaaacaaa gttttgtagg taagcagtgt 1500
gggcctgagg aaaatcgaaa atggaaacct tgaaagcaga aagcctaaag tattttaata 1560
gatgccggtt tggaattcaa cctagtaaac atgtttccaa gttaaagaac attcttgctg 1620
gcagggtgca gtggcccatg cccgtaatct cagcactttg ggaggccaag gcaggagat 1680
cgcttgagcc cagcagttcg aggccagcct gggcaacata gcaagacctc atctctaaa 1740
aaacatgcaa aaattagcta ctgaggagc tgagggtgga ggatcacttg agcccaggag 1800
gtcaaggcca tgatcgctgc actgtactcc agcctgggtg acagagcgag accctgtcaa 1860
aaa

<210> 46

<211> 2680

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22639

<400> 46

agacggacaa cttgagaaaa gcagtcaagt tccaaggaac tgacagcaac ctgcaaagag 60
gaaaacagca tctctcacc tgcgtaaaat tgtctcagct tctgttgtt ctcaactgag 120
gttcgtaaac ccatcaggat aatccctgga gggaatagat cttgcacat ccagggaag 180
aaacatgtcc aagttacca gaccattgat aacagttgca ttaggttgc acctgggtaa 240
tctggcataa aagatctctc taggcctcac tgttgcgtg tctatccctt cacctccatt 300
gaaatcagca ttttgatct aggtcttcac ggaatccttg agaagagagg ctttacaat 360
taccagttc tgagggttca gttcacgaa aagaaatgca acttgggata atcatgaaca 420
ggttaaagat aagatttcaa gaagccatct aagaatacag aaccaaattg gatccattt 480
tttaaaaaa tggttttgca tggaacctg accaaggcaa atgtctttt ttcgcagaat 540
tgttttccag gatgccagt gattcagata gcaatgctg gagtagaatc cgttactaaa 600
atagtttcaa agttgacaaa aaattttcaa agataaaagc agttttacat tgggggttgc 660

tgaggtaggc acaagaaaaa gtcaggcata aagcacaagg cagactgttt gaggtaggtg. 720
gttgctgctc actaaagttg ttccctgat ctctaaatat ggaggtcatt accaagaaat 780
gctttggtat gaatgagagc cagatctcca ctgtgtgagc cagtgaatta tggctaattc 840
ggctgttaca gccactgggt ggctggattt taaaccataa aactgaaga ttacctaca 900
aagtaacagt gtggctataa gcctgagctt taatggatat acatcctcac agaaaagttg 960
gaaataacca aaactgaagt cttaatitac cttcagttta atctgtggat ttgttcaa 1020
actaaagatc ctcagggtcca gaattccagc atcatttatt cttttaaataa ttttaagaac 1080
ttgatccatt gtatcagtac ctcacaatca gagggtggcaa atgatggatg agtgattcaa 1140
gcagtgacc cggtggaagc tgaaatccat ctgtgaatgg aactgaagtg aacgtgaata 1200
tgctgactat atcctggaag catTTTTATA ccatcttgaa atttcaacaa actggctttt 1260
gccagttaat ccagctgtct ttcaagaata aaagttgggg tttcaagga tcgcctcttc 1320
tatattttaa atggattttc agtagaaatg atttttacta atcaagttaa tcccaccca 1380
tcaaaaggta ttcttagaaa tgtcatagac ctaggtaact ttgaattgaa tgggagctaa 1440
cgttctttcc aaagttttca ggtattcttt gtgtgacacc ttctcaacca ggaggcaagt 1500
aaccgccct ccacaatctt agtatttttt ttaaactgca tgcctgccc ttatttgagc 1560
tgccttttta atttattgca tatccttttt attatcttat ttggtatta ttcaatctat 1620
acaatctttt tgtatttatt gggaaatgag taatatacaa aaaggtttc atgtatttgt 1680
ggctgagagg gcgggaaata attgtgtaca taaattagg cttttttaa aaaaatagat 1740
tatgatgcag aatattgttg atcttagatt aaaaagtga agagccaca acattggtgc 1800
ccttttcaga ctatttctct actctcatca tccacagtag aatttttaa cagatttttt 1860
taaagctttt cttttaaatt tttctcgtt gcaaagaatg tttcctaata tgtatgggag 1920
caatagtatt ttgatgttt taatgacatc cgtatacttg tactgtattt tgtactaca 1980
ggcagctgtt tttcaataat gtccgtctgt atttacctac gtgttttgag tgtctatttc 2040
tttgcgcgg agaacaaatt cctaaatagt tttagtaaag gagctgagaa gctagcatta 2100
ggtttgaga aactatttaa gttcaactc tgaggcagca atgaaaattt aagttgcagc 2160
tattagtga ttgctgtaac tttttcatt tcaaaccatg tacaattctt gtatagacca 2220
actgttttc ttgcttcagt ggtggttctg ttgctcagct gcagtgagcc agttcaattt 2280
tgcaaagggt cagtacctct ctttttaag gggttggtt attctttttt ctttttgtt 2340
ggctgaattg cagtaactag cttgccttt ctattctgta gaaatgacag ggtcttcaca 2400
atccttcacc agtggctact aagctataat tagctgaata gaaagaatgt ggaagtggc 2460
tgaggcatat agagtatatg ccaagaacac taccatata ggcatcagct ttggttacca 2520
gagaaattt cttagtcatt agaccatgta acagtaatat atcatatgta aatcittaga 2580
tatcaattt aaaatcctcc aaaaaagga gcaaagaatg cataagctat gtgttgcaa 2640
aagtaattta tattaatatt ttgacctgcc tatgtaaaaa 2680

<210> 47

<211> 1755

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23174

<400> 47

atataaatgg agggatcacc aaaacaaaga ttatctcttt ggtagctatt taacctgaaa 60

gcgtaggagt ctttccatta tagaagcccc tccgttccaa ggaactagcg atggggctag 120
 gtcaatcagc agagttgaca acagggcttc tttttgtgca ccagcattcc cttcagaga 180
 gcataagatc ctgccagtgt gccagtttg cagctgacca aacttctagg ttgtactgga 240
 attattctat gcaacactga tccttatatg aatgcgttcc ttctgaatga tgttgactac 300
 ccttcttaca acaaaactgt ttctttttta ttgcaaatag ggctcttggg gttttttact 360
 tttttgtaca tatcacagta catgggtttt cactctttag tttatttcat tttattggaa 420
 ttaacttttt ttattctaata actgacagag tttgtaatct ctatataata cgtaattact 480
 ccaattacag cacttttacc ttgaagagca tctcagtttt tcccacaatt tcattgagtc 540
 atcagagact gatgttgctt cttgggtttca aatttgggcc taaagaaact ttcggctgta 600
 gaaacaaaag cacagagtga attttttaca aaagacaggg aatatagaat agtcattaca 660
 gacacaaata accctagtag cacgaagtgt gtgttttctc tgtttttact taagattaag 720
 aagatttttg gtgactctga actctttatt tatatttcag tttaaaatat caagactaag 780
 gggcatcagt tatctttact ctttaatat gcccataatt taataaatta cactaattaa 840
 acgcataatt tcagcatacc agtgaatta attttggga tcacacacat ttaaatagtc 900
 atattgtggg aatattatag ctggttaacca gctgatattg attcttatta taggaatgac 960
 tgtaatgata gtggtggtag cagtagtgat attagcgggt gtggtgatgt gaagtaaaat 1020
 aaaagtatat atttatattgt gcccaattta tttagaaatta tttgatcaat gcttcatttc 1080
 attaaaatat cataaagatg tttatagtat ttttttactt tattatttaa atcataacta 1140
 acaatatttt taaaaactta ttttcattgc tacaatgtca aatattccaa aatcagccaa 1200
 ctacagctat atatgtgtta tgtgtgacag aagtgatctt ccttccctct ttttgagctt 1260
 gacatgaaag tgaaagaaga ctcaatgaat aattatgagc tatttattta ataattactt 1320
 gccttgggtg taatacagta atgaatgagt gaaacaaata ttctcattga atatgataca 1380
 atgctgtttt ctgtatgttt catgttctat tattaaggt atccattagg ccaaaattat 1440
 ttaatcaaat tctttatctg ataggtagat tgagagcatt ttcttaatgc attaccttgt 1500
 acataagtat acacttggtg aagtagacga agttgaaata ttaatttcat ttggcattta 1560
 gcatgtgaat atgattattg tttgattgtg tctgtatatt tgtttgggtg cgtgctcagg 1620
 tgcctccact actgattaat gtgtgtgcta atatcctaaa aacacatatg aggtttaaga 1680
 aaaaattttc ttgtctgaaa acataaacat ctaataaaaa ctgattttga aataaaaaact 1740
 aaagtacttg aaaaa 1755

<210> 48

<211> 1409

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23198

<400> 48

caatgtagca gttattgata gagaaattga gaaaactgaa acgtgaccgg agtattggaa 60
 ataacgtagt acatcaccta gcacaatgac acatagtagg tgctcaataa atttatgctt 120
 ataatttttg tcacttctat ggcaggattt ttttattagg ttaaaattat cttttaaaca 180
 ccttcgggaa ttttagaata ttcatataata atgtcttcaa accittcaac tgaaataaat 240
 ttacagctga agtctgatga tttaaagtta gaaagtttaa tcttgaatat aaatgaacat 300
 tttctctccc acattttctt gggcattttg agaagtaaat gcgttattta ttgggtccatg 360

```

aaatgtgact gtaaataatc ttgctatac attatgtcta tatatctgca ttcacctca 420
atgccaaaac tagaatcatt agtcctaatg atcattttta gtacaggcag tcctcgcttt 480
ccttgatacc atgttaaccg aaacttggtg atgtcaacac ggtgtccttg ctttgcttgg 540
ttaagtgtga gttcttctc ccttttttta agagttgtac aacgtttttc agtcgcctac 600
cgaatcaggt catagactat ggaattgacc ccacccacc aacattttta cagctaccct 660
gatttctgac cagaaaggaa aaaaaaactt tccagctcta tcacacattt tacctactct 720
taaacttagg aggtattaca aatagcattt tctcatgttc tctttctggc ctgtacctcc 780
ctgctaagct tccttcagtg ttcacctca cctcatagag agatgaagtg aagagacaaa 840
cagaagtcatt tttcttcctt acttttagtg tttctggttt agttagtttg ggccaaactg 900
tggacaagta ccttttcagg taactttttt ttcttatttc tatgtcctca acacctagtg 960
gagtacgtag ccaatagtag atgcttaata aacatttctt aaattaatat tgttgacctt 1020
ttctgacctt gttcttgaca gtaaggtag taatctgcct tcacccctt agtccttagg 1080
aacagataaa gtcattgata tgaaagtgat cactgtcatt aatatccaca ttaaaattgc 1140
tcttgatttt agtttctcca taatcatttt ccctaaacaa tgaactctgt tcacctttt 1200
ttttaaata tgcacagtga atattactgg tagcccaaat ctctaacat aaaatttcca 1260
ttttgtaaaa gcttctgata agcatatatg ttatgaattg aatgtttgat tattatactt 1320
taatattctt gaaaatattg atacctggac tggaaagaaa acagacaaaa gtaaattca 1380
gaataaatta ctgctttaaa catgaaaaa 1409

```

<210> 49

<211> 2433

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23328

<400> 49

```

tgtttctttt tttatttaaa attgtcattg ttgggtttta atttttcagc tagatgaaaa 60
gagtatgaac tactttggaa aacttaacag ctacagatg gccatgcctc cagccctca 120
cgtcatcttt gcaacagacg actgggctgc catggtccac ccctcagccc ggtcccggg 180
tctggatgga acgggagcac tgctgggtgcc cactggcgtg tgtccccggg gtcctgtaa 240
gtgccccctc accagcagca gcgtgacaca cacaagactc aagaccaccc tgcagtgcc 300
ccccagtgca cggcaaacgg gcaggtgccg ttccccagc gacctgagg taggggacaa 360
ctgagcagta tctgaccagt gccaccagg agccagtctc ctggccacat gcagaaagt 420
tggccccctg ttacctagat gttttgtgca cctccatggg cagagggtgt ggatattgcc 480
taggctggaa aaccctttt cagtctttcc aaaattagag ggtatggcaa gtttctttt 600
ttctctctc ctttcttcc cctcttcc tctcttacc cctcttcc tcttctctc 660
ccttctctc ttttctctc cctctctcc tcttctctc ctttcttcc tcttcttct 720
ccttcttcc cctcttctt tcttctctc ccttctctc tcttcttcc ctttcttct 780
ttctctctt ttttctgagt ggagggggaa atattctaaa ccaaaaatcc tagatgctt 840
gcccaaagcc acttctgcat gagaatcgca accacagtt ccccgatga gactcgccac 900
agtggacagt gccacctct tccctcggc cccggagagg gcgaagtgg cggaagcca 960
ggatgtgagc actggaattt cttggaagag aagcgataaa tggagaccat ggccagcgt 1020

```

gctttctgtg cactctgatg actgctctct gcagccatga ggatgtggct ttacatgcc 1080
 gggagagtgt tgagacgtct taggttgagg atgagcagat tcgagatatg ttgttgctc 1140
 tcgggttttc gatacaacat catgacactt ctgtttcaag ctcatgtttt cgtctcccc 1200
 tccactctta gtaaacccttg atctgtacgg agcggcctgt ccgaggctac gccggcctcc 1260
 tggctgctgc tggactgtgc ttaggacagc gcccatgcct cggaggggact ctgtcccatg 1320
 agaaccacct gtgcaaagga acagagctgg atgtttccag gtagattttg gcctcccaga 1380
 gcaatgcggc atttgagaag caacagttcc taactcctta tcttcaggga aggaaaagaa 1440
 aatcacagcc taggaagatg gaggttggat tttaatctcg gttttaaaaa gaggacaaac 1500
 aaaatgtctc taagccaggc tagatggaat gtgtcccg ctcctcctgc cgtgctgaaa 1560
 gtcatgcctt gcggatgcct catgacagca gtggctgagt ctccccaccc acccccaacg 1620
 tggctcattt cagattgctt cggccccacc ctgcaaggat gtggtcacgg agtggccagg 1680
 aggctccgct tgagccacag ggatgggtgt gcagagctcc ctctccttg ggtgccaggg 1740
 cagagattcc aggcaggtga gccagagag agctgccagg ccacaccccc tcggcctcct 1800
 gcacggccac cttctgggtg aatcggtcca gcccaagccc ctctccccag cctcgccttc 1860
 agcctctctc ccagcctgct ttataaggc gcacttcact caatgctgta gccaaaaaac 1920
 gaggggcccc agggagaggg gaccagatg gccacacacg gaacgcgcct ccacagcccc 1980
 gggaggtggc tcaactctga caggtcttcg gaggcgtgt ttgtatctaa ctgtgactgg 2040
 gctgaagcat gatgttcctt aatggttcgt agcatggtt ttatttctta cgcattcttg 2100
 gcacacagtg tagctatcct cctgacgagc aaccgcgtct cgtacctaa tggtgctccc 2160
 cgtgggtcag cgtcctggta gcatggatcc agtctgaaag gtgaggacaa cgtggaaact 2220
 catgagctga gcctgcccgc tgggacacgt ctccctcccg cgtcaccttc tggtttaggg 2280
 agccgtcagg tcctaaacg ttccctacaa ctttttctga aattgtgcag aaaaacagat 2340
 ctcatataaa gaaaaaaga aacaacttgt aggaagacag agagggtgcta tgggtacaat 2400
 ttttaataaa aacattattt ttttccttaa aaa 2433

<210> 50

<211> 2201

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23420

<400> 50

ggcgctgcct cgtctctgct acccctgggt gggcggccct gcgaagcagc tccttcgggc 60
 agccccgggt cgcttagcgg ccaaggaggc ttcagttctt tgccgcctgc aaggcggaga 120
 ccagaaggcg gaatccacag ctggcgacgc gggagcatct gctgtccacc agcggagcac 180
 aggccatcaa agccgcatct gaacttgaat tctgtgcagc tgattgcaga gctggacccg 240
 gatctgcgac cccctgtgga cagaggttga ccgtaccccg gagaggagct ttctcacgga 300
 gggcactggt tgcagaggct ggaagtgaat taaagacgag ctcttgtttc agagtctgct 360
 ccctgctgag ataggaaggc agagccacct cctctcctct cccacctgca gattaagctt 420

ttctaaaaag cctaggcatc ttcttatatt cagataccct atcgtcgtca gtcatggcta 480
 gcatcattgc acgtgtcggg aacagccggc ggctgaatgc acccttgccg ccttggggcc 540
 attccatgct gaggtccttg gggagaagtc tcggtcctat aatggccagc atggcagaca 600

gaaacatgaa gttgttctcg gggagggtgg tgccagccca aggggaagaa acctttgaaa 660
actggctgac ccaagtcaat ggcgtcctgc cagattggaa tatgtctgag gagaaaaagc 720
tcaagcgctt gatgaaaacc cttaggggcc ctgcccgcga ggtcatgcgt gtgcttcagg 780
cgaccaaccc taacctaat gtggcagatt tcttgcgagc catgaaattg gtgtttgggg 840
agtctgaaag cagtgtgact gcccatggta aatTTTTTaa caccctacaa gctcaagggg 900
agaaagcctc cctttatgtg atccgtttag aggtgcagct ccagaacgct attcaggcag 960
gcattatagc tgagaaagat gcaaacggga ctgcgttgca gcagctcctt ttaggcgggtg 1020
agctgagtag ggacctccga ctgagactta aggattttct caggatgtat gcaaatgagc 1080
aggagcggct tcccaacttt ctggagttta tcagaatggg aaggaggagaa gaggattggg 1140
atgatgcttt tattaacgg aagcgtccaa aaaggctctga gtcaatgggtg gagagggcag 1200
tcagccctgt ggcatctcag ggctccccac cgatagtgat cggcagtgct gactgcaatg 1260
tgatagagat agatgatacc ctgcagcact ccgatgagga tgtgatcctg gtggagtctc 1320
aggacctcc acttccatcc tggggtgcc ctccctcag agacagggcc agacctcagg 1380
atgaagtgt ggtcatgtat tccccccaca attccagggc tcagtttct tccaccagt 1440
gtggttctgg ctataagaat aacggtcctg gggagatgcg tagagccagg aagcgaatac 1500
acacaatccg ctgttcgtat tgtgtgagg aaggccactc aaaagaaacc tgtgacaacg 1560
agagtgacaa ggcccagggt tttgagaatt tgatcatcac tctccaggag ctgaccata 1620
ctgagatgga gaggtcaaga gtggcccctg gcgaatacaa tgacttctct gagccactgt 1680
aagggaccac cccaggttt cagtgaaccc ttacctatat tcagcatcca gtagtgggaa 1740
aactggggtg ggggtggggg tgggacttct aactgcatga attaatccac aaagcggtta 1800
tcttttgggg tggagtagaa agggctcttg ataccagcac attggaggga gatagcctga 1860
cctctgtcct tgctccttct cctgcagcc tacgggtctg ttttctgtgt gtgcccattt 1920
ccttgacagc tttattcttt gtgaaagtgg tataatttat tgtaaatat ttgaacaata 1980
aaaaaggtac aaaaagtga gtacaaatta cccaaatctc tccacccta tataatcatt 2040
gtcaaccctt tgatgagtga ttttcccta tacctatgta cccagataga tatatgcata 2100
gataaaagt atgaaatata agtgctgttc tatctgtatt tttcaccaa acaatatatg 2160
ttgtgagctt ctatgtcaat aaatatatat atcagcaaaa a 2201

<210> 51

<211> 1806

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23483

<400> 51

tttgaactt aaactttgac caagaaattc ttcacttctc acttcttcac ttcttccaa 60
tatacagtaa gtacgtgagc cagtcatcca tacactaagg ctagttgag aaaaacctt 120
gattcaggat ggctgggtta ctaaccttga aatgtaagag atctggttt gaatgtaaaa 180
gttgcaacac acaaacggaa gtcttaaaaa ctttttgcct tggtcagtta caggtaggac 240
cccaataatc tgtttttggg tttctgatgg aaataataga attaggggaa atcaaatctg 300
gttggttaggt gtctacagta ttagaagagg gtataagggc actgtttaac actaagttct 360
aatacttcca gaaactgtgc attccagatc tacatactaa atgctcttat cttttgaaa 420
tgggctcttg attaatagac ccatattttt tagtggcttc tatgttgtat atttgtctaa 480

aatgaaagct cttttgcgtt ctaaaactac aatatatgtc atcttatttt ccctgagtat 540
 ccaagtatag tgcagattct atgtaaaact actaaatgac actggaatat gtttagtaga 600
 ttagggggaa aaactataaa ggttatatac attgtttgta gttacattta ggatggactt 660
 atccctttgg agaagagtga agtttgtttt ttcgccatgt gatgaagacc actgtgattt 720
 tttaaaaaag tagataatac ttaaaaatggc gtaataattc tgcacttgaa tttgtactgt 780
 taacagcaca tttggaagat tttaaaactt tttattgtct tataaatagc attcacttat 840
 tattttggat atttaagggt tccattaagt taacactgta tttggacaaa gtgtgaccaa 900
 attagccagt ctgttttctt ccatgtttaa ttagaagtga gaggtagaag tacttcaa 960
 tcaacaggcc agcaagcaat cggtttaaaa ttcctttct taaatgtgt gctcttatgt 1020
 tctcggtttt ttaatgactt tatttttaca gtactgttc agtcactga gatgaaatgc 1080
 ttggggtagc ttttccatcc tcaaaactta tgtttttact agttcatagt gtttggaa 1140
 gtatatgcc aacttgaga ctgcatcaga gtttgcaatt ttgtatgtt cattgccaaa 1200
 gaaggcttag tgggtgttga ctgtagtata agtcagcttt ctgtagcata agatttgatt 1260
 ttccatact tacttactt gttatacatc actgattatt tgggttaaac tggactcatt 1320
 tcaagcagtt tgcctttgtt caaatcgtga tgagaaacct aatactgtaa tttgatttga 1380
 gccataaaac acattttaat attagcttgt attatagtta ttaagcttgt ttttgtgaa 1440
 aaaaacttac taaaacctag gtaactctag attaggccag ttcagggtga ttttgtatct 1500
 tagtaatga tcatatcgta aaaatagaga taagtggga agatatattg attatgctgt 1560
 tctgttgagg gaaaggcat gtatttagaa attaaactt ttggttattg tgttcacatc 1620
 atagtattca agcatcatt atagtttgg tttgagaact tttctggtat tacgtttatg 1680
 gcaaatgtat aaaagaaaca agttttggtt atatttttat attttaaag taagtttgg 1740
 taaagtgatc actgttcttt tttatttta ttgtcatttc aataaaaaat atttgaaaga 1800
 gaaaaa 1806

<210> 52

<211> 1659

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23808

<400> 52

aagacttgat gctgctaagg atctactatg tgccaggcac tgctctgggc gctgggacct 60
 gcacctgggc tttttcgtca tgggtgtttt atagcctagt gggagagttg gtgaagtaga 120
 tagtgattca gtgagatggg tgttatgatt ggtcaggggt ctgtgggagc accaaggaga 180
 cagacaagat tgatgtgcac ctactctgtg ccaggcgtgt gccaggcatt ggggatgtag 240
 tggtagttaa acaccatttg gtcttcagga gctttaattc tagtgtgttg ggtgcagggg 300
 ggtggaatgg ggacagagag acacctaatc caccctgtgg tggctttctg gagagggagg 360
 catctaagct gagctgtggc tgggtggagt gtgggtgggg atgagttccg ggcagcgaga 420
 gtggtggaca ccagtttctg gggatcagag aggatccaaa gaggttcttg aaggttcatg 480
 tggaatgtag caagagatag gagacatgga catggtgccg ggtctggttg ccaagaagtt 540
 tagattttat ccttaggcct tggggagcga cgatatgat ctgagaaagg gagttagtgg 600
 atttgagttt taggctggcc atttggcttt tccagcccag gtggaactca gaggagttag 660
 caatggcctc tgccacatt ttagacaact gagcagaact ttttgaaact aggaagaccc 720

tttggtccat cttttgataa acagaatcca tacatgtcta ccccagttgg aagtatctct 780
 gcaatgactg gaaagtaaag aggaccaagg tgaaaaataa ggctcggag gggagcaatc 840
 ttgaaaacat gtcattccat ggtggtggga agtccctgga gaagatcagg ggaaacacag 900
 tcatagctg caagtctata agataatcc attggggagg gagccattt gtcatgcatg 960
 gctgcaaggg gcagatacaa gtgtggagta agcttgcaag agctgatcct ggtcccagag 1020
 agggaaaaat atgccttggg gggtaataa cttttgttc ccagaggcag aaggattggg 1080
 actaggccaa catagagatt ggcgatggtt gtgagattct aagagtgtgt gtgcatcttg 1140
 acaatattag aggaggctga gcccaagcag gcacattctc ttgacccct ccctcattca 1200
 gtctgcttg gagtctactg aacatcaagc ttgctatgag caggatctta gagctgagga 1260
 attggcctcc caatccgaac aggtgttata atcctttctt aataggttgt gctgtggacc 1320
 caatgtgagg gctgtgctgg tgtaaatggt gacatgttga gctgggggga tgctttcggg 1380
 gtggggggac tggttccatt ccatcaaagg ccctcttgag agtctatcca gggaccatt 1440
 gttttacttt aacagaccag aaaagatgtt tgttttccat gtcattacce ccaggggata 1500
 ccgaatgtgt gggtagaaat ttctctgtag attaaaaatc agatttttac atggattcaa 1560
 caaaggagcg tcacttgat tttgttttc atccatgaat gtagctgctt ctgtgtaaaa 1620
 tgccatttg ctattaaaaa tcaattcacg ctggaaaaa 1659

<210> 53

<211> 1520

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23851

<400> 53

aattacaaa caaaattata gtctgtact ctaagaagca gccatgtctt gaggagaag 60
 gcttaggata tgaggactag atatcagcaa ggataccata ggtttgaaa gacattttta 120
 ttaccctta gaatacacia ctttactgat ttttaaggat gatcagccca tcatatagca 180
 ctttattttt tcttttaaag acaatcctgt ctcatctacc ttcacttgac acaggagttt 240
 gagaagtcct gggcaggtat acctggttat tttgtcattg gtagtctttt taacttttag 300
 aaaaataatcc tagtaaaacta aacctgagcc tctgaataag atgttgtctg cttttgtagc 360

tatatgagaa gaggggcaga ccacagcttt tgacggggat tttgaataa aataactaaa 420
 accaacaata cagcaaaaagc tcatctggga aaaggacaaa gaggtaacta gtaaaatgta 480
 aggctgtaag gaaaggggta gaagatcaga ggaattctca tcaaaatatt gcaaattatc 540
 ccctgaacac aaactggtaa cgggtggttg ctttaaggga ggaaattcgg agattaggga 600
 tactgggtga aaggcagatt ctttttttta ccatatattc ctttgtatct tttaaatttt 660
 gtattacatt catttgtgat ctttcagaaa taaataaata aaaatgcagt agcttcctga 720
 tcagaaagag ggaataattg ctgtcacttg cgtttcagaa acatagcatc caaactgatg 780
 tgattatggt gacctgtccc acttagtttt gctgatgtac tataattact ttctccagtg 840
 aggctgactt cagaaacagt tgcagatgca gaattttaat ccagggtatg ctgtatataa 900
 gtaacttttg catttacaat ctaccatttg gcgttttatg gctaataatc cacaatatc 960
 taaactaatt tataaaggca aaaactactg atttaagtga gtactctgct tctgtatccc 1020
 cgagggtgag cagaaaaatt tcaagttgcc acgccttgcc cagacccac agtatattgg 1080

ttatttggctc tgaagttagt tctttaaaat aacttgaaat gtttcatgct tagttctagg 1140
 atctatactt tctttgattt gactgggact gaaaggctca gaataactga atataccttgg 1200
 ctctaaataa gaagctgtaa ctttgggccca ggtgcagtgc ctcatgcctt tgggaggcca 1260
 aggcaggaag gtagcttgaa gtcaggaatt taagacagtc tgggcaacat agtgagaccc 1320
 ccatctctat aaatgctttt taaaagtagc agggcatggt ggcattgtgcc tgcaatctca 1380
 gctacttggg tgggtgagtt gggagcgtcg cttgagccca ggagttctga gctgcagtga 1440
 gctgtggttg cactactgag ctgtgattgc actcaaggct gggccacaga gtgagaccct 1500
 gtatttaaag aaaagaaaaa 1520

<210> 54

<211> 2962

<212> DNA

<213> Homo sapiens

<220>

<223> nbla24011

<400> 54

aagaacactt gtggatcaag gcgtgggtgt cttttcttt ttcattccaca gtacaggttt 60
 caaatgggtg tatggaaagc tttggataac catacttagg gaacattaaa aatggtttta 120
 ttttgggttg ctcaatgggtg atccaaagag ggggttgttg tagtggtttc aataaaactt 180
 cacaaccaat gggaatcttt tttgagtttg tgtggagtgc ccttaatgct ggaaataatc 240
 ctgttggcta ggactccaga actgtacgga tgagaaaagg atgcaggaaa ttctgttgtt 300
 tacacatgtg gctgcaactg agacactgga gcagcccagc aagcccagag ggtcttaaaa 360
 ataaatatga atttagattc catacatcga ttaattgagg aaacacagat cttccagatg 420
 caacaatcat caattaagtc acgcggcgac atggtggccc ctgcctcacc cccagggat 480
 acctgtaata cctgcttccc acttcatggg ctacaatctc atgctgctca caatttctgt 540
 gtcactcat ataacaccaa caaatgggat atttgtgaag aacttcgcct gcgggagctt 600
 gaagaagtca aggccagagc tgctcagatg gaaaagacca tgcggtggtg gtcggactgc 660
 actgccaact ggagagaaaa atggagtaaa gtctgagctg aaaggaacag tgccagggag 720
 gaaggaagac aactcagaat aaaactagag atggcgatga agaattgag taaactgaaa 780
 aagaaacaga gtttgcacc tcagaaggag gcattagaag ctaattgtac ccaggatctg 840
 aagcttcctg gcttcgtaga agaatcctgt gaacatacag accaatttca attgagttca 900
 caaatgcatg agtctatcag agagtatttg gtaaaaagac aattttctac aaaggaggac 960
 acaaataata aggaacaagg tgttggtatt gattctctaa aattaagtga ggagatgaag 1020
 cccaatctag atggtgttga tttattcaac aatggtggtt ctggaaacgg tgaaacgaaa 1080
 actgggctga gactgaaagc aataaatctg cctttggaaa atgaagtaac tgaaatttca 1140
 gctttgcagg tgcatttggg tgaattccaa aaaatcttat ggaaggaaa agaatgcgc 1200
 acagctttgg aaaaagaaat agagagactg gagtcggctt tgtctctgtg gaagtggag 1260
 tatgaagaac tgaaagaatc aaagccaaaa aatgtgaaag agtttgacat tcttcttgg 1320
 caacataatg atgaaatgca agaactgtca ggcaatataa aggaagaatc caaatctcaa 1380
 aacagcaaag acagagtgat ttgtgagtta agagcagagc tagagagatt gcaagctgaa 1440
 aatacctcgg agtgggacaa gagggaaata cttgaaagag aaaagcaggg actggagaga 1500
 gaaaatagaa ggctgaagat ccagggtgaa gaaatggaag agcttttggg taagaaaaat 1560
 agattaagtg caaactctca aagtcctgat ttcaagatgt cacaatttga tctgcaagaa 1620

aaaaaccagg aattactgaa ccttcaacat gcctactata aactaaacag acaataccag 1680
 gcaaattattg cagaactgac tcatgcaaac aaccgagtgg atcaaaatga agcagaagta 1740
 aagaaactaa gattacgagt ggaagaacta aagcaggagc tcaatcaaaa agaagatgag 1800
 cttgatgatt ccctgaatca gatccgtaag ctccagaggt ctctggatga agagaaagaa 1860
 agaaatgaaa acttagagac tgaactcagg cacttgcaaa actggtaatt ttttcacaaa 1920
 atatgctgaa ttaaagatta gggccttaaa gacatttcca tacccttttc ttaaatatca 1980
 gtaaaattgt ttttattaac tagaaatatt aatgaaaaaa acgtagacaa tacacaaatt 2040
 aatgggcttc ttcacttctt ctaatttttg cctaacagat actgcatatt ctcaaaaaga 2100
 caatttaaatt gtcatttaaa aacaacttta attctaagat gtgtaaatai tttgaaagtc 2160
 aaaaagggtt ttcagaatac tttttacata aaatctgaaa gagttataat atcggtaga 2220
 aaaagtaagt tgaaccacat acaagacgct gggtcattaa taagaaaacc attgacttta 2280
 agtataaagt actggtttgt ttaaataatt ggtaaacttt tatgtacgtg ttgtctatgt 2340
 ggtggggatg gcaggttgta ttaacaaaaa tgaatcattc tagagggtga acaatacatt 2400
 tcttatataa ttttataagt catttctaatt ctttgtataa aacagaagtg agcagatgaa 2460
 tcagaaaaaa gtgttttgtt ttttaaagta acagataacc agtgattgaa tctaagacag 2520
 gctgtaagca tcgctgagaa actaaaagga cttttgactt ttatctggat agacatttct 2580
 acagtaaaat catggaaagg catcagcatt gcaaagtagc atctaggtag aaatcaggcc 2640
 aaaattaagc tgtggtttcc ctctgagtag tgggaataga gaaaattagg aaattgttgt 2700
 tatgtgaata tttcttttaa acttttatgt acattatagt ttattgcttc atatttaagt 2760
 ttagttttta aggtaaaatg ttattttgaa caaaaagaca cttataattt tccataccta 2820
 ttttcaactg aaggcaactt gtaagattta actcagtcac taacatactg gttttactca 2880
 tctccccctc cattgattag ccaaaaaaaa aatgaaatct tactaattca ttattgaata 2940
 aagaccactt ttatcagaaa aa 2962

<210> 55

<211> 1360

<212> DNA

<213> Homo sapiens

<220>

<223> nbla24235

<400> 55

tggcttaaga cctcttttcc tccttatcta ttgactggac tgcggcaaatt gcctgctaatt 60
 cgttattttt gtgttcattc atttagcaag ccaatttatt acgcgcttag ggtgctgcca 120
 gggctacaaa agctgttgag actgtacttg atatgaagaa gcttgctgat tatcatggga 180
 agactgacat aaggaagcac cataaaattc tgctgtatga gaggtatata cgggatactg 240
 ggggttaata attgagggtg tgggtccattc aacatgagtg agacagaaac aattcataaa 300
 ggagatgaaa tgccttgagg aatgagctct tagaagaata gttttcaaat gagtgtgcat 360
 cacagtcacc tgtaagactt attaaaacag atcgctgggc cctacaccca gaggtgtgtg 420
 ttcagtaggc tgtagtaaac cagtaatttg tatttctatg acgttcccag gttctaattg 480
 tgttcccaa ggccacacct tggaaaccac cacattaaaa taccagaag gcattaattc 540
 ccagtccttc ctctacacag ctgcaaaaaca atggtcctga ccatctcatc ttgcaactac 600
 atccttcact gtctctcttt tgcccatagg ataagtacaa actagatctg gttactgcct 660
 gccccaccag cctcagcatc tctcacaact aggactaact ttttctctg acaactataa 720

aatatttccc ttgccttctc aagtttgctc aaggtcaagt tatgcctttt gcctggaatg 780
 acttgacttc tcttttgttt tacttagctg gctgcttttc atctttagg ttaggtcaag 840
 gactccagga agtcttcctt ggacaagtaa tgaagagggc ataatccaag ggccaactcc 900
 catgtttgga acctgactcc attttcaggc acgtaatat gtcaaattcc ttttaaaagc 960
 acctgtctgt ctgttaacgt tgggtgcagat actgctattc cctcctcca taccattgct 1020
 gatggttact gagggtatgg gaagggccga ctagtccagc tgttcacaaa cagcccttaa 1080
 tgtcaaaactg aatactgcc aactagttcc agtttctgta tctaaagact cagcttggag 1140
 tcacttgtct ggactaaaag taacctctcc ttgtctggtt tgtgacttcc tgtactctga 1200
 tgccccagc tttctgcctt ctagaaattt gtcagaattt ccaaaattct tgggccttcc 1260
 ttcttgctct atatatggtt ttggattcat tccttttaaa aaatatattac tgtcatttca 1320
 gtagaatttt gacacaataa atataagcac atcagaaaaa 1360

<210> 56

<211> 2049

<212> DNA

<213> Homo sapiens

<220>

<223> nbla24556

<400> 56

ggacaattaa ggtgaaaatt attctatttt aaaggggtag agttcttgag gaagaacacc 60
 tttgtgtgca tgtgtagttt attccttcta caaatattta ttggacaaca gtgttgcgac 120
 agtattctgt gcaggccact ggagatacag tgggtgaaaa aactaaactt gtccccagtt 180
 ttaatggaat ttccagtcta gattgggaga taaacattaa gaaagtaatt cactagtgc 240
 agaattatga tacatattat gcaagaaagt atatatgctc tgggggcttg taatgaagga 300
 acataagttg gtctccagga tgctctctga ggagggggaa attgcaccga gcacaaagga 360
 tgggtaggaa ttaacagggt gaagatggaa ggggttagcc agctcctgag gtatccaggg 420
 cttttgcctt ttacagatg gcagtgggtg tataaatgga ctccattttt tctttgttcc 480
 tgactttttg gctgcaatgc caagtggctg ttttctgtct gtgtgttctg tctgtctccc 540
 agaactctca aagtgttctg ttcatggatg gtatttaata aatggacatt cactggtaga 600
 aagtatttga gagtctatta gaagttaaatt ttgtttcaag gcaataaaat tctaaggcat 660
 ttaagagttt tctctgttta aatttttaaa caaattgtgt cttatttttt aacatcctac 720
 taaataatga cattattagg cagctacttt tagataaaat gtgataaata atactttctt 780
 cataaattct gctctaagaa tctgtttata ttttgatita aaatagaaat cttttatgta 840
 atttaaaacc tcattttgaa tggaagtgat atgaatagtt tatgcaattt ctgccaagga 900
 attaatatgg actttgtata aacctgtc atttataatc aaaatgcitt taacttacat 960
 tgatgttggc attaacaagt attgctagat tggtagcata gaaggaaatt gcatttagac 1020
 ttactaggag ctcatgatg cctgaggttt tataatgctt tctttgggcc atttaactgc 1080
 tggcaacttt aattcacatg attcataatg ctggaaattc aaattcactc ttaactgaaa 1140
 agtgaagtta cttaaattct ttaaagtcta acctttggaa aaatatctga aaaataaagg 1200
 cactgccaaa agattatcat ttacataaat atctctttca gcagaagagt ttaatgtatt 1260
 gagctcagaa ggttagaata gagacttcaa tctggaagcc agcagtagcc tgttggcttg 1320
 tgaacagcag cattgttcat catactgaga aactgttgc attcaggcag aagcagagct 1380
 ggcattaaaa tgcagttaat ttgtttcatg tgacttgtca gctgtgtgtt tttatctaaa 1440

tctttctagc ttctcttttt agtattttgt gttcaactcc tgcaatagat gaactaccta 1500
 tttaactggt taagctctga ttttatcacc acttgcaacc attctccagg tttccattt 1560
 cattttaaat atatttaata atcagtttga acacgatttt aatgtattaa aagtaacccc 1620
 atctcagagg gcttttctgt ctgtgcatg tgtctgtgtc tgtaaacgg actttctgaa 1680
 gttaattaag ataaaattgc tacccttatt ttctccccag caccctattc tcttcttggt 1740
 tgctaattgt gttctctggg tttttccctt agatgacttt caatatttgg ctactagcca 1800
 agtattgggt ctgagcagta aagtgctagt cccaaagaaa tgatataact gttactaaca 1860
 ttagaataag gttcccattt cactttttga agggcgtgaa aatcttactg ctctctgca 1920
 actgtgctca cttagtataa tctaacagtt aatattcttg tttaattgga aggatatatc 1980
 cagtgatttt taaacaactt ttggaggtgt aattgacata caataaactg ccatatttaa 2040
 attgaaaaa 2049

<210> 57

<211> 1373

<212> DNA

<213> Homo sapiens

<220>

<223> nbla24800

<400> 57

tgaatttggga tattgatgag gctgaaatgg gatagttcat acagggacct tggatttata 60
 ctgttgcttt tttatggcca tgttaaaagc atctactttc cccatgggag gaagggtgcat 120
 gctgagtgat cctgttgagc tgtcactgct ctgtcaggag attcttgttg atggacatat 180
 gtctgaccac ttgagaattg tgttgagtg aaatacactt gcataagtca attattaatg 240
 acagttcctt tagcaactcc cagagaagggt ggggcatgac ttcttcctg gagctgactt 300
 cagacaaatt cacagatgct aaaccctggc tttttttttt tttaacattt taatttcctc 360
 tcatagaatc atcacaaaat aagaaaacac ttctttatat cgtaatcata attccagtgt 420
 tttcagtttt atttcctttt tccactaaaa tcattcctgt gtttcaatca gttaaagtggg 480
 ctctctgatt tcatttggga tttgtatttg tgtttttgtt ttccattcgt ttatgtttct 540
 ttggttcgta gtgtcagaag acgatgtttt ttatgacaaa ctgccctcgt ttgaaaggcg 600
 ctgtgaaacg cctgcaggta tgggtgctagc caagtgatct ctagagacct agattccaaa 660
 aatccaagcc attatccatc tgaatgctat aaacttcatg gacatgccct cacctcatga 720
 gtgtccagtg cctctcagat gcaccctgta tatttactgt tcctcgtgga actcgtgcca 780
 ctgaaaattt ttaagtgact atattcaaaa acagcagggt gcatgacagt ttctcagtga 840
 agaggttcaa aaaagggtgag atgctattgc tttgtgaatt tacaaggaa agaataattt 900
 aactgctcag aattacatgt cgggtcactg ctttttaatt taaaaataa tagagcatca 960
 ttagtaatct tgttttctct ttgatacata ggtaaagggt gttttgtgtc tggatgccta 1020
 aggtgattcc aggggagggg atggaagata tgtgacatct tcctgaaat ttatattgat 1080
 atgcaatgct ttgtcattta aaacctaagc taatgttttc tacaatccat aactctgagt 1140
 ttatcttttt ggaacatag aaggggatga cattgaagat gaaatggata cagcaattgc 1200
 tgaatgacag ttgcccataa ttagtgcagt taaaatatgc tgatgccct gcatggccag 1260
 gaagacttct gtcctatgca cacaagcacc aagtatcaag cgaccaccaa cacattccca 1320
 ttcttttagg cctccatagc tttgcttttg ctttctgttt cctgaactaa aaa 1373

<210> 58
<211> 2192
<212> DNA
<213> Homo sapiens

<220>
<223> nbla20001

<400> 58

```
ataataaaaa taaaacaatt ttacaaagt aatgggattc aaagaaagga aaaaaagatt 60
tttttttttt gtcaaaatat cgatccaatc agatttgtaa aaacccccac acaaattaaa 120
gaggaataat aaaaattgca aaaataaaaa aaacttttg caaatTTTT ttttttcct 180
tctttctttt atatcatgtg aactaaaaca gtcttctgtt aggggatggg ggcaaggggg 240
atacctgatg acattaacaa ttaataaca ttaacattgt tgccaaagag gtggtctctt 300
tgctgaaaat gggtttcaag aaaaatctat tttataaaaa tataaagaat ttttacaaga 360
gaatctggat ttgagaaaaa aatatTTTga ctggctaatt taggggaaat tgacaacttt 420
gtcgcgttca tactgactg gtaacttttt agagatcaag atgtgtgttt taaactggat 480
tcgtagactg ttttttgaag gatgggctat aaacagatga tcttcataatc ttttcatagc 540
atgtaataat aattaaaaaa caattattaa ttactagggg aaaggagtgt tcgttctacc 600
cagggtacca cagttcccca cagtcaaaac caaaagcaa ggagatgagt tgaaagacag 660
tttttcttta agtcatcagt atgggatgtc agcagaacaa aaattaaaaa gattaatttt 720

ccttttgatc taaaacttcc ttagtttgag cagtaggtgc tacaaaatta tttacataatc 780
ttagtatcat agttaaatgt aatgtgttta ggagaggaaa acaaaagata catttgcttt 840
aaattcatta agaaattttc aaattcactt ttaggcccat gctgatagaa ttgggctgtg 900
ttggtacatt tgaaacactg tttatgttgc ttgaaacact tatttattta atcgccgatg 960
tgatgatgcc tatggccgag atcaaatata gctagattgg ctagactact tatttgTTta 1020
cttaaaactat gggaagaagc atattattgt gtcattctgt tgtgtgtgta tgtgtatata 1080
caatataaat atatatatat aaagtatttt tttctttggg ttaattttatt ataagttgta 1140
acacttggtc agttttgttt gtatatgtct taaaatgttt tcttatgata ttttaagtgc 1200
agttaagag gtatcaaggt aacttgtgta gaactattct ttgatattt gtcattgtttg 1260
ttgtgaatat tttttcttac tgcacagtag aaaaataaaa acaactgagt ctttatttta 1320
atgtaactca gattggggaa aacaaaacag agctaaggga acaaaatgac tgaggagca 1380
ctctccacg tccagtgcac tgatcatttt agtatgtttg tgctttgtac ggttatatat 1440
ttaaacgaa aacaaaacaa aaaaatacaa gggttcacgc tcttcctgg gtaatagaaa 1500
cagttactcg ctatgcataa tctagttgat agttaaatTT gctattgctt ttctgtctt 1560
gttatataaa atcttttcaa tacaagttta gtcttaattg taataaaacg ttatggttat 1620
ttataacttg tgcttatttt gtgcattttt tcccatgctg aaccactaa gtgcattgtag 1680
acaggactgt tgttttcaca ctgaaaaggc aaactttgta gtagtcgttg tagtggtaga 1740
cagataacga ataccaaggc tgcacatag actcctcctt taaatttttt ttctgttttt 1800
ttttcctctt ttcggttttg gatataacac cagatttcag ttcagagaac actcgttcaa 1860
cattcaggga aagcttttta cgtcacctgc tatgaatgaa cgtagtttgc tggcaaagtt 1920
ttgatgcatt tgctaagcat tagtgggaaa ggcatgccaa aatcttctct ataagtgtt 1980
caatcttggg ggaaaaaaa aggaaaaaaa atcttaggac caggcagttg tatacttttag 2040
ttattaatga atgacttcat gttaatcttg ctagtttaga tgatttccaa gggaaagtat 2100
```

tgtaaagtgt ttttttcat aatcttggtg tgttgaatt atttgtactt tatctgtcca 2160
gacaataaat gaaagtgtgt agaatggaaa aa 2192

<210> 59
<211> 1380
<212> DNA
<213> Homo sapiens

<220>
<223> nbla20083

<400> 59
atctacaaag ccagatgctc tgtcttcata tttgcagaca tctagacccc ttgctaaaaa 60
cccactgaag tttttttttt atgttctttg acccacacca tcaacactac cctcaaactc 120
aattgcccta cagcatattc tatcatgtgg actaggttcc tggaaagccg gaactcatga 180
ttctttttca aactgccaga atagaaggga gagagaaaac atttctaccc tttgatcacc 240
agtgtgaaca gaatccggaa tgcagtttca gcgtgacctg cagtcattca tgttcattgg 300
atttgacaga tggaaaccca aggttatcga agattggaag gttatcattg tgaagaagta 360
gctcaaagga ctccggtttc tgtctacaag tgtgatgtct ccatgaagaa gacttagtat 420
ggatttgggt gggtaagaaa gcatttaaac gcccaggaaa ggacatgatt aaagttgacc 480
ttttaatact gtagtacctt gctgttaagt aaccccacta ttgtatctgc atttatcttt 540
tgttcatcta ctttcaacta catacagtat tatataagta gagaaaaatg ggaaaatgca 600
agcaaattca actttatitt atacattgta tatatgtaca ccctacacta ttcatttggg 660
ttttattaaa gagatagtca caaagggtt acgaaaatca tttttgaatt gataattaga 720
atattgaata agcaatccta tgatccacta atttgtttta tcagttaata atattaatca 780
aagacattta ctgtatattc tagtcatttt gatttgagtt aaccccaa ataaaaattac 840
ctgtagtgat gtctctctcc cagcccttat atgtggatat tttttaagt gacttgtatg 900
ctgataattc tagaccaaag taaatatggc agaataatta tacatgaaaa aataattttg 960
caaatatttt ctataattgt attcatttaa aatgttgata gcttgtgtta gtttcaggga 1020
gggggtgata ttttgataaa aaaatacttg actttgtaat tctgtatatt ctatacaatt 1080
tatagcagag ccgttttaag acagccttgt cacatttttt tgtaattgt gaaaatttta 1140
ttgagtgatg ttaagtatg cattgagtac atgaccaact agaattaaag taagtgtaaa 1200
cagtgaacat actgtatgct gtacaagata taatgtaact tgctgtttta gcatctgtat 1260
tttggttaga agatattatt aaatgcagat gtttaaggatt ggaaaagtct aattttattt 1320
ttagaaataa tggatataaa tttgtttttg cttgattaaa atagcttatt cctacaaaaa 1380

<210> 60
<211> 1833
<212> DNA
<213> Homo sapiens

<220>
<223> nbla20182

<400> 60

ttgtaaatgc tgggcctcct gtgatttgag tgaggccaac aggacatccc tccccagctc 60
ccagggccca tgctgtggtg ggactgggtg gtgacccacc tcctctgggc ctctcagtgc 120
tctgggacta taaaagctga atccccactg gagctggcct gagaggtggg aaatcagctc 180
cccaccctgc cccagtgttg ggcactcggg acctccaaag gcagagtcca tacccaaagc 240
accaggaaaag gccactacgg tgggtgttgg gcgtggagga tgtgctgtct gggcttaacg 300
gtcctgtcct cgggaaatga ctatagagca gagattccca gcctaggtca aattccacag 360
ggatcggagc tactggaatc ctggaggccg acctgggcct gcccatttc ccctaggtgg 420
tcccaccgcc cttggccact ccaggccctt ggccgagaga gcaggcagca accagggtc 480
tgtcctcct gcttcctcca aagccaaaat gagagacagg caggtaccca ggcagtgc 540
ttggaggtgt ggattccccc gcgcgtcca cccagcttgg cctttgact cccgaacccc 600
catggggctc ctctgcccgc cgactcccat tcaggcggga gcacctgag aagatcctca 660
tcaggtgcag gggaggggtg cccagtgc 720
gatccttggc tctgagccca ctccgaaggc aaccagctg ggcgagagc gaaggctctg 780
gactctggct ggtgagcag caccaggag gcgggagagg ccgggtgggc ttctcttcc 840
ctttctgtca gtgcctctcc cccaagagtc ttctgtggc ttccgcccc cttgcaact 900
tgttggaaag ggaaccggg gtctgagag gggcaggaat tctggagcac ggtggcactg 960
aggctcccc gcgcctcct ccaccgcct gagggaggcc agcgggctac tcctgcgtg 1020
gtgctgtgc tgttctccc cgctgtgca ctcatatgt tcataccct cggccaccct 1080
gcccttctgg tagccagagt ggcctgcct atccagggtc ccgtgggaa gtgggtccc 1140
agccaccgga aattcgttcg ctgggcctc tggactcgc gatccccagg tcccaaggc 1200
ggatcaccca atgaatgact gccctggagg gaaacggaga ggtggacacc cttcatagg 1260
tgggccggag aggggacagc cctgtcctca cagagctaag ctctgcgtgt catgcacgga 1320
aggacacaca gcatcgggcg ccgagaacag ctaagtgtc gaagagccag cctcacgcc 1380
tggggagcaa acggccctcg ccacgttctg gagctgtggg gctgagttt tgtttattt 1440
ttattacaaa agtaatagt cttttatta tctggacatt gcagtgaagt tcaaatggaa 1500
atacgtctgc acttccaaca tcaaaagcca actgccttg agtgtggatt tactgggaat 1560
tgtaacttaa gccgtattgt tttttaaaa aaagtatta tcagtgaata tgcatttatg 1620
tattcagtga aaatgtgtc gtgttgctt tataataagg caacaaaaat aagttagtac 1680
aaataaaagg aggccaatag agggaaactag attgtcacg gtttaagaac tgtgggatag 1740
gggtgggtac acgggaattc acttgaagc tccctcgatt ttgtttata ttgaaaact 1800
tccataataa atgtttcaa aaagtacaa aaa 1833

<210> 61

<211> 1664

<212> DNA

<213> Homo sapiens

<220>

<223> nbla20248

<400> 61

tttcaagcac catatcagca tgatcagcaa tataagtagt atctcagtgc tttgttgtt 60
agtcagagtt ttgtactcta tcaccattg taatgttct atttgcaaaa ggtaatacat 120

accctttaaa acatctttgc tttttctccc attatcgaga tgctagcagc ttcataaagc 180
 agaataacta agggcaaaca gattatataa agggttggag ctcaatgaag acaacaagaa 240
 cagcaaaggt tattgtaaaa ctggctgctt gcaggccaac aagcacatcc atatggaggc 300
 aatcagttaa tgctacctct gtctgtttga tgggattcat aatattgact ttatccatta 360
 gatttggact accagggaat aaaataagca gatggagagt aaggatttgc taggaaataa 420
 ttcagccagt cactttgaaa gctgttcaag aaacagcttt caaagtgtct ctcaaactat 480
 gtttggccat tatcccaata atttatttcc caataatttc atgggaaaag aaggaagttc 540
 tgttggtcaga taaatctgga aaacactggt ttaagcaaag ttcagtaggt ctgcttcctt 600
 gcaggtcacc tcagagtctt tactctgcta acctaggaac tcatccaaca agtttaattt 660
 aacagctaca ctgtgtacgt cactttaaca gtcactgagc tgtgactctt gggggaaaga 720
 ttgtgcgtgt gtgtgtgtgt gtgtacacat gtgtgcacat gtgcagaatc taccaaatct 780
 taagagaaag gaacatgctg ggaaactgtc ctgtgaaaga gaatagaaac ctgaagattt 840
 gaggcagtga tagcatttat gaaagcagca gataaggact aatcaccaaa aggggtagct 900
 cttttgttgg ttggggaaaa caggaatttt tccccaccc aatgtgctgc attttctaata 960
 tttctatgaa cacttcctaa gaaaaagctg aatgaagaac atttgcgatg caatcagctc 1020
 attaagaaac acgcactttt gtggagatac gtgctgtccc aggagatgct ctgcgaggag 1080
 ccgagtgttt ggactggagc tgctgaatgg tttctcacag ttctagaatg tttggggctg 1140
 caccctctaa gatgttgaac ccatcagtaa ttgctccaaa ccactttatg ggatataatg 1200
 ctgtgagttg acacctgagg ggattgtggt cctgttcacg agtaattact tttctgttgc 1260
 ctatagaagg gccagcaata gcagatgagt agctgaacag tggttttgag taataaaacg 1320
 tttcttttta aaaaaagta atgctttctg ttaaactctg actataactct ctcttggtat 1380
 cacaacccag ctttcttttt gccttcttta ttgcagttac atatggggct gatgacttta 1440
 gggatttcca tgcaataatt cccaaatctt tctctctgtt ggaattgtga ctatcttctc 1500
 acacaagcgg ctacttggtc ttgatgcctt cccccgaaa acagcaacca aactgttctg 1560
 ggccaatatc accaccttgt ggtcatgatg aagaattgcc ccctttgccc tcaacacctc 1620
 tttcttctt gaaaattaaa aacaacccct ttcaccccca aaaa 1664

<210> 62

<211> 1531

<212> DNA

<213> Homo sapiens

<220>

<223> nbla20250

<400> 62

ctttaaattt gactcaaatg gaaattgtgc actttcctgt ttataccctt cccacagtta 60
 ttgtaaaaga gttaacagc agcctgatat gtaagtttca gcaaaactta tacctgtata 120
 tgtttttatt tgactcaaaa attagatatt ttaccatata gtcataagaa tttgctcact 180
 ttgatgccag aagtacttaa gaagttacac ggcactaatt ttatgagttg tatgcctaata 240
 ttcaatttct aacctatttg acagtttctt ttaggtcagc ctttgttggc cttccatgta 300
 aatacaagtt ggtacaaatc aatagaaacc attttaccta cataggcaaa gtaaattgtg 360
 gacttagaga ctgccagatt tatggtgcat ctacctttt atccatttga gcttgctttt 420
 ttatgtttgt gtattggttg ctctgacac tatacatttc aaaattttt ataacttgaa 480
 aaacacttct gtgctaccac tcagttctga tcaaatcctt acattttgca acactcattt 540

ctgaattttc agtaaagaaa tacacattac aaattaaagg ttaaaggccc cttttcatgc 600
 ccttccccag tctcctcttc ctccccgga agtgtccatt ctgtgaatt caggttcac 660
 attgccagac aaatgtagta agctagtgtt tcacatttcc aaaatcagcc ttctggcaga 720
 cttggaagta ctcttgagaa aagaagactc gtgaccaaat tctcccacag atttgtaata 780
 atgtacatat tgaaaggact gaaggctctc agactgggaa agaaacttac ccattttaaa 840
 attcagcatt gctcaactta cctgactgcc ggacccttc acccatgatt ctatgcactg 900
 tattgttgga acatacattg tgaaaacact gccctgccta ggcatacccc ctttcagaa 960
 ttaactttcc atttaattct atagtttttc actgatgtaa ctttctagac tggacaacaa 1020
 agatgactaa tagtaatcac tccaagttga tgttgactgt tgggttgttg tgaaatcatt 1080
 ttgcattaaa ggaaggtaaa atactaataa attgcatatt ccttgaccag agcacagatt 1140
 acttatgctt cttaattttt taaaatctta aatcctctgt ccaactggag tatctggcta 1200
 tgggccatgg gtactcatat accctttgtc ttaactgat ctgttacatt ttatgttctt 1260
 gtggctagaa gttagcctgag tttgtgtta atgtttaaca catthtcttg agtaacagtt 1320
 ctgttaatat tgtacaagat ggtacttgaa tctttgttt gcctttttc ttctgtatt 1380
 agaaaatctt ggtgcttttt ataagttttg tataaaagaa ttttttttaa gatttgttca 1440
 taaaatggtc tgatccagga aaaataaaat gggaacatgg acaccatttc tgaccttcaa 1500
 ataaaactta ttatgtattg gttttcaaaa a 1531

<210> 63

<211> 1871

<212> DNA

<213> Homo sapiens

<220>

<223> nbla20330

<400> 63

gaaatcagag gtatgttgag cagagtaacc tgatgatgga gaagaggaac aactcacttc 60
 agacagccac agaaaacaca caggccaagg tgacagagga gttagcagcg gccactgcac 120
 aggtctctca tctgcagctg aaaatgactg ctacacaaaa aaaggaaaca gagctgcaga 180
 tgcagctgac agaaagcctg aaggagacag atcttctcag gggccagctc accaaagtgc 240
 aggcaaagct ctgagagctc caagaaacct ctgagcaagc acagtccaaa ttcaaaagtgc 300
 aaaagcagaa ccggaaacaa ctggaactca aggtgacatc cctggaggag gaactgactg 360
 accttcgagt tgagaaggag tccttggaag agaacctctc agaaaggaaa aagaagtcag 420
 ctcaagagcg ttctcaggcc gaggaggaga tagatgaaat tcgcaagtca taccaggagg 480
 aattggacaa acttcgacag ctcttgaaaa agactcgagt gtccacagac caagcagctg 540
 cagagcagct gtcttttagta caggctgagc tacagaccca gtgggaagca aaatgtgaac 600
 atttgtttggc ctccgccaag gatgagcacc tgcagcagta ccaggagggtg tgcgcacaga 660
 gagatgccta ccagcagaag ctgttacaac ttcaggaaaa gtgttttagcc ctccaggccc 720
 aaatcacagc tctaccaag caaaatgaac agcacatcaa ggaactagag aagaacaagt 780
 cccagatgtc tggggttgaa gctgctgcat ctgaccctc agagaaggtc aagaagatca 840
 tgaaccaggt gttccagtc ttacggagag agtttgagct ggagggaatct tacaatggca 900
 ggaccattct gggaaccatc atgaatcga tcaagatggt gactcttcag ctgttaaacc 960
 aacaggagca agagaaggaa gagagcagca gtgaagaaga agaagaaaaa gcagaagagc 1020
 ggccacgaag accttcccag gagcagtcag cctcagccag ttctgggcag cctcaagcac 1080

ccctgaatag ggagaggcca gagtcccca tgggtccctc agagcaggtg gtcgaggaag 1140
 ctgtcccgtt gcctcctcag gccctcacca cttcccagga tggacacaga aggaaagggg 1200
 actcagaagc tgaggcactc tcagagataa aagatgggtc cttccaccc gaactgtctt 1260
 gcatcccatc ccacagagtt ctagggcccc cgacttcaat tccacctgag cccctaggcc 1320
 ctgtatccat ggactctgag tgtgaggagt cacttgctgc cagcccaatg gcagctaagc 1380
 ccgacaaccc atcaggaaag gtctgtgtca gggaagtagc accagatggc cactacaag 1440
 aaagctccac aagactgtcc ctgacttcag accccgccag acctgggtgaa gaggatcata 1500
 accctgtctt caagaacact gggatttcag cagcaagtg gaagaaggac tggtaggttc 1560
 ccctccaagc cagtcacctg taagagtcct gtccctgccc agacttttta atctcttcat 1620
 taactctcag actgacctgg gagccctcct ctacctgaat ccagtgtcga actgtgcccc 1680
 ggcaacaaga cctgggctga ggtctccctg gtgaactaa gggagattac accatctaaa 1740
 tccagtgca gtcaacagcc tggcctatag tcttgggaca tgtatcttct tctttgcctt 1800
 aaatctgata caagaggtca atgactttga aaataaaact aaaataaatg tctataatga 1860
 aacttgaaaa a 1871

<210> 64

<211> 1474

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23983

<400> 64

taaacattcc ttgtgtatct ttaagcatgc ttctcctgaa atttaactac attagtagtt 60
 gacatttgta tacatatatc ctaatacaag agtaggataa ggtggaaatg taatggcctg 120
 agggatgggtg aagcattctt ttagtatttt tcatcatgtt gggctcctag attgtactgg 180
 ggttgcccat aaatcaaacc ccatactctt agaattcatt atattatggt gatatccgaa 240
 cctagtgaat ggtatgcttg ggtgttttcc attgagagtg gatggacctc tttataaagt 300
 tggttgctgc aaaatccagt tcttccaaaa gccactttat ttagggttta ttcacaagtc 360
 atatccattt tggtagctg tttgtttcct aatatttatt aaccacctta taccaaatgt 420
 ctgcaaaga aatgttatta aaaccttgaa tttttacaaa tgtaaaaaac aaaaagtgtg 480
 ttaatgtatt tgttcaggaa aagctacata ccgaagggtt tttgtatatg aattctgttg 540
 tggggagacc catttgtaat ctatatggca gttccatctg ggttttaagt ttagatttca 600
 ccgtgtctta gtgcttcatt ctattggttt attggaacat gtaataaata ggagtagtga 660
 tgtattaaaa cacaagtatt cattaatgtt ttatatcttc actaaaattc tatagttatg 720
 aaactatttt atcaatcaag gtgttatatt tcagtcagaa gtgaaaattt atgaagagta 780
 tttggaagtg tgtacagaaa taaactagac ttacaggtag gctagatcag aacgttaaca 840
 tatgaacctg cagaaatctg gtaagactta aattcagtg gaggaataac tctagttctc 900
 tcctatgagc atttccataa agccatctga tttggcattc ttactggagc tgcagacaga 960
 aatctacaaa gacaaaagta aacaaaatta agttattatt ccactgttag gaatggaaat 1020
 aaacttgtga agtctgttta ttttgaagta ttggtgaact aggtctgcta attgataact 1080
 gcagcagttt gtgtttactc cagttcatca gcttaggtca tttgaaagat ataagagctt 1140
 aaggcaagaa agaaataaca tggaattcta tttgaaggac aacagaacat tcttgaaaa 1200
 gcagctccag ttggttttcc aactgtcaaa ctigaatgtg taagtcccca cagagcatgg 1260

acagtcggtg cagagttcca aggaacaat tattgcctga tgaccattc cattttgtat 1320
 acactctttg gttcgtatag gccatattcc aactggcttt ttagtaatag aaatccagta 1380
 tataatgtat caaatacaat tgaggttcta acctagtgtg ttaatttatc tgaatttgga 1440
 tttttaaaaa gtaataaaaa gttaaatgta aaaa 1474

<210> 65

<211> 2167

<212> DNA

<213> Homo sapiens

<220>

<223> nb1a24111

<400> 65

cttataaaaa ttttgaagcc catcccatg gatttattat aatacagctc tgatatatct 60
 taaagttaac ccgttttccg tagatgttaa gggctttact ggttgaggta acctatttca 120
 aatggctctg tgggttttgt ggtacctgt caagaattca ataagaattc tcaggctgtc 180
 tgtattttct ttaggacctt tggagatctc tcaagttgta ctgttttcta gtattcctga 240
 gtatatctct tttgtaacgt gaaagtaaat agtttatatt tgatgatttt ttttttttt 300
 ttttgagacg gagtcttctg ctgtcaccca ggctggagta cagtgggtgag atcacggctc 360
 actgcaagct ctgcctcccg ggttcacgcc attctcctgc ctaagcctcc tgagtagctg 420
 ggactacagg cgcccgccac cacaccggc gaattttttg tatttttagt agagatgggg 480
 tttcacctg ttagtccagg tggctcaat ctctgaacc ttgtgatcca cctaccttg 540
 cctcccaaag tgctgggatt acaggcgtga gccacagtc cgggcctgta tttggtgata 600
 ttttaaaaaa ttctactttg accttaagt cttcaagaat tgtgttcagt tagtagtct 660
 tttgtaagac taactttcat atgctatctt tgctccatga gctatcatag tactgtttc 720
 tttcattacc cgtaagagtg gctctatcac agcatttact gtttaagggt acagtttag 780
 ctctgttaa ctctactttt atttgtgat gctgtgttc aactacctt gatttataaa 840
 ttagtaaatg ttttaataa ctatatgtt tggctcctta atacctctt tgattggtga 900
 ggtaacagtg atgtggatga tgaaataaaa acgtttccc aagtcactaa acacagttt 960
 caattcattt tttttttaca ttttaattt acatctaact actgttaggt atgcagccc 1020
 ttcctttttg ccttcagtag aatatagtta tataagtagt ctcatctaga ttcttgggac 1080
 agaacggcct gtgtattgat ctttctttaa tggcttgga cagcttctat atattctgac 1140
 aggtcttga agcatgttaa tatccgtgtg ttaattgtc atcttctgc ctgggaaggc 1200
 agtagaagaa agaacttaca tttgtatagt ctgtagtaca ggctctgtgc tgattgcaag 1260
 gcactcttga gagaaattca ttcttatttt gcagaagaag aactgaaact tcattaagtc 1320
 attagcaac ttgtcagggt ggtggaactg agctttaaat atggactttt tccagtctca 1380
 attcagcatt atactaggct gcctccatgt gttttcaaa gcccattca agttttactt 1440
 ctatggtaaa ctaattttac atacacaaat ctttcatct tctgaacttc ctttatggct 1500
 ttactgtcac cccactagta tttgatgtct tagctattaa ctaattcctg attatttcac 1560
 ttgtcacatc aggaacccta tcctcttagt tctccattg agatttcaact gctggactaa 1620
 gattattctt gattcgtagt cattggtttc tgtttccatt catttccagc actgattatg 1680
 ttaatcgat tgcttgagtt ttttcttctg tcaatgtgt ttattacatt cattttgtt 1740
 catatacaca catttttttt tttttaactg gcattttgag gatattggtt taatggaagg 1800
 aaaaaggaat ggtgcaaagc acatgggtatt tgaattccaa agacctgac cctcagcatt 1860

agcaagtcac ttgttttctg agcctcagtt ttcttactct caaatgaggt aatatccgaa 1920
 agtactttga caacacacta aagcctgatg cagatttcct ttttgaagta attgtgctgt 1980
 ttctattcat attggatatg gtattctatg gtattggcta tagatacata cattttaaaa 2040
 tgttatitaa cagcatgtaa atgttcattt catgccatgt gatcatgttc ccctttatga 2100
 ttttttaagg ctgtcttaca agcctaacag tgtactaagt cattaaaaga tatattttaa 2160
 gtaaaaa 2167

<210> 66

<211> 1388

<212> DNA

<213> Homo sapiens

<220>

<223> nbla24142

<400> 66

gtgcttttta accaaataaa agaagaacca gctcttgga tatgtgactc tgcctctgta 60
 taaagtgact ggaattttgt taaaaccgtg tttccacttc tgaaccctgt taccattccc 120
 cctcacaaat cccacccaa cacctggatt ttaaagatcc tccagtgtca agggaagcca 180
 cagagtctat taaagaggca gttctgaacc aattaat tttgtccttata atttagagca 240
 ttaaatagct aatatattta atggcactaa ttgttggtca cggctttcat catactttta 300
 aacagaatcc aaagtattca aaggaaagta agcgaagtta tccaaagcca actttgtttc 360
 aggtgtgtcc cctgccccaa atagatttta gggcagaaat agaaaactga gtttacacag 420
 aactattttt ggaaaagctg cactggagta gatggattct tcttcagcat acttttttgt 480
 ttgtttgttt gagatggagt ctgtctttgt caccaggct ggagtgcagt ggtgtgatct 540
 ccactcactg caacctccac ctcccagctt caagtgattc tctgcctca acctccaag 600
 tagcttggat tacaggcgtg cgccaccaca gctggctaatt atttgtattg ttagtagaga 660
 cagggtttca ccatgttgtc caggcttgtc gaacttctga cctcacgtga tccacctgcc 720
 tcagcctccc aaagtgctag attataggcg tgaaccactg cgcccgcca gcatgcattt 780
 ttaaagtggc ttagatttag ttttaaatat tttgggtga aaggcaggaa cagttctgtt 840
 tttgacatac aggttttctt tgggattgtt ttcattttca agtatagatt catgtcagaa 900
 tggccaactt aacgtgggtt tctgtattcc ctggtgttgc tcttaacctg aactcataat 960
 cagttgccat actgaggcaa gagcactcag ggtgaacata gtcaagttac tttaaaagtg 1020
 ataaaagtgt tttccatgg tgaaccttc agtatttggc tgaatgtaaa gtatgttgaa 1080
 gtggtatatt gatggttaagt tgtaatcac taacctgtt tgcacttttg tacaccactg 1140
 cttgcactag gatcttgggtg tgaattttca attgttttac agtgtataca gattattaag 1200
 gataatttat ataaagatgt ttctgtttta ctttgtgtgt tttacaacaa agagctataa 1260
 tagatggta aacgtttttg aattgtgtt atatgttagt ttgattatgt tctattatct 1320
 tttcacctgc catgaatttg agtgttagga agggaaaaat aaaatactaa tctggtcttg 1380
 aagaaaaa 1388

<210> 67

<211> 2357

<212> DNA

<213> Homo sapiens

<220>

<223> nbla24157

<400> 67

```
aaaaaaaaa atacttgtct gaagatgtat gcaagctaaa attagtttat acttcctgta 60
ttctgggaac attcagtttc atggtatctc ttaatttcaa gtgtaatttt acttacaata 120
aaatactcat tttctttgat accattctta ttttgtatth tataattatt ttcagttact 180
aatggaaaat atgacctatg tgccataatt taatattata tttctactth ctaatgttaa 240
gaacttaaac atacttaaat ctaaacttat ctatctatct atctatctat ctatctatct 300
atctattaga tatctgtcta tgtaacttag ctatctgggc atattattatt tgccttgaca 360
ttgtttcaga aaaggacaaa attaatgttt agaagttttg acciggttc tatatggagg 420
caccttcaga taatttaatt aaattagata acatgtacta aatctatact gacctagtt 480
taacaactaa attgttctaa aactacattc tcatgtctcc atttgcttta ctgtttcttc 540
agatttatag ctgtactaca tttactagtt aatcctttct aattatatgt ttgtgtttat 600
catgtagcgc atggtagaaa gaaagcaagt aaaagaaaaa gcaaaaaata acatcagtaa 660
tactttaaat gcatacagta gtaataaaaa agattttatt gtaacttca cgtcataggt 720
tagcagaata gactciggag gtataggth ggatttgtat tttatcactt actaaattga 780
tgaccttatt tacgttatat attacttatt gtaaaagaaa tgtaactcgg aaaactaaat 840
agcataatta aattcgggat ggcagcagga tagaatactg ttaaataact gcactgcaac 900
aatttagtga atctcacaag atctttataa tcccttttcc aagaaaaact gccatttaat 960
aaatgttata catgatttta ttaataaaat aaaaactgaa ggaaagataa cctaaatcta 1020
ttttttttaa caccagcaat ctgtaacatc cctagaaaat tgtctagaac acagcattcc 1080
tacctataa cgaaactgta tctcttgcaa gcaacaagaa atttctgttt ataattttct 1140
aattcctagg gctcagaaca ttgcttatta tagagatatg caaaaaagta tttgtgttt 1200
aatgaacagt cacttaataa ctgctatcct ctgcagtctg catgaaatca cataataaga 1260
ccatgattgt tcttatgtcc aagtcaatac ttcattggtc taactgcac agcttgtctg 1320
caggggattt ctggaggtht gggggcttgt ttcattgtat ttcaataacc aatttatcac 1380
ttgttgttct actctggaac cctgttttct tggctatgtt gtgtttgcta tatgtgtgac 1440
acaaagatgt cactgcttta ctaagcatgg cagttttaat gatgactgtc actctgaact 1500
tagggcaatg gtgtaagtct tcctgtttta ttttgctttg tttgttttc tttgtttgt 1560
ttgtttgttt gttgttttg cttcctctgt agcctaggct ggagtgcagt ggcacgatct 1620
cggctggctt gctgcgacct ctgcctcccg ggtcaagca attctgcctc agcctcccaa 1680
gtagctggga ttacaggcac ctatcaccac acccagctaa tttatttttt atttttattt 1740
tttattttta ttttttttt agtgggggca gggtttctact gtgttgcca ggtggtttc 1800
gaactcctga cctcagggtga tccaccgccc tcggcctctc agagtgtgta gattaaaggc 1860
gtgagccact gcacctggcc tttttgttgt ttttatgtca tttcttgtg cacttaatta 1920
atacatagtt tagttaaact gaattaaatt atctaaaact ggttaaggta attaccttt 1980
ccataacttc taacagcaca accacacca atctgtaact tttagcattg gttgaatgaa 2040
aaatttagaa taatgcatgg ccaggcatgg tggctcatgc ctgtaatccc agcactttgg 2100
gaggcagagg cgggtggatc acttgaggtc agttgttaag agatcagctt ggccaacaca 2160
gtgaaaacc atctccatta aaatacaaaa caaaacaaa caaaaattag ccaggcatgc 2220
tggcatactt gtgtcccag ctacttgga ggctgaggca ggaggatcgc ttgaaccg 2280
gaagcaaagg ttgcagttag ccaagatctg cactgcaca ccagcctggg tgacagagca 2340
agactacatc tcaaaaa
```

<210> 68
<211> 1522
<212> DNA
<213> Homo sapiens

<220>
<223> nbla24230

<400> 68

```
tttgggcttt tgttgggcac tgtgtgtctc ccatgttccc catttgtctg ccaccaata 60
agcatggtgt cgagggtga agtagaaatc agaggctaga atctgaaagc ttcattaggg 120
ttctgctttt tgcagattag ggactttggc ccttagtgag ctgaggatct tggtttcctc 180
ccagtgtgcg gtttcaggga tgcggccac atgatgtgcc tgttgggag gagggctggg 240
tcgccagtgt gacaggagac agcagatccc ttttgtgaaa ggagaactgg tactttgcgt 300
gatgttaaac ttcacaaacc gctgctcaga aatctgctat tttccttctc ttttaggact 360
ttatggacag cagcctgcta accaagtcat cattcgagag cgctatcgag acaacgacag 420
cgacctggca ctgggcatgc tggcaggagc agccacgggc atggccttag ggtctctatt 480
ttgggtcttc taggggcctc aaggctctga tgtgcatagc ttctgataac cctgtgtgca 540
ataatatgat ttgcagggca tttctgtttg tgacaaaagt ttttaataat agttttaatc 600
attcctttga aagtagtgat gtcataattg tactaatcca cataagtacc acagagaagg 660
gtttgaactg tgctattttg ttcaaatgtt gactctccgg gggcactggc tcattccaag 720
actgttcttg tgcaactctc agaatacctt atttgagcat acctgttttg aaaggcattt 780
tctttttaga gttagggtga gtgcttaagg gtttaatttat tttcatgta tgccagtaat 840
atagtgttgt atgcctattg agtgattgtg gcaagaaaag ctacagcttc tttgcgttta 900
actttttcaa accacagacc agaactggtt gcatgttact ttaggagttg tgggttggtg 960
agctcccagg tacttcccga ggctatggtg tgagagcccc cgctctgccc tctggggctc 1020
cacaggcccc tggcaaggcc gatggctcag gatgatgggg cacagcccgc ctttgaacaa 1080
tcattgcttca gaaatctgcc tgaccctagc tgctgctgct gctcacttta ttcttgatg 1140
gctttggtag gcatacttgg agaacatata ccacattagg aattgattta agcctgagag 1200
tttgagggtt ttaatccttt aaaacttggg gaagctggct gggcgcggtg gctcacgcct 1260
gtaatcccag cactttgaga gaccgaggcg ggcggatcac gaggtcagga gatcgagacc 1320
atcctggcta acacggtgaa accccatctc tactaaaaat acaaaaaatt agctgggcgt 1380
ggtggcaggc gcctgtggtc ccagctactc gggaggctga ggcaggagaa tagtgtgaac 1440
ccgggaggcg gagcttgagc tgagccaaga tagtgccact gcacttcagc ctgggtgaca 1500
gagtgaagct ctgtctcaaa aa 1522
```

<210> 69
<211> 2098
<212> DNA
<213> Homo sapiens

<220>

<223> nbla20541

<400> 69

aaaaaagtaa gcaaaccaat acctggtgaa tctatggaca gtcatacaca tacatcaggg 60
gaaaatgtgt gtgtacaacc caaatTTaca gtatgattgt cattcTTtga cTTtgtTTt 120
tatagcctga ctctgttgaa catgaaatta ttagtactct aggtTTtTga cagcttgagt 180
tcatttgaat tccttcctta ggaataagtt tttatataca ctgctaaatg tgtgatgaga 240
atcataaaac actaaccagc tgaggtagct gtgattcact ttccccccac cctaacttga 300
gataaaatga aggactaggc aagtatttca tgttTgtTga gtggacttcg gttccttcag 360
tattgtctag gttattgagt cTTtctTTgc ctaatagtgg attcccactc ttaagataac 420
ttttattagt gataaatcag tttagggtat attctgtatg acaggcataa aatgttaagg 480
gtgaatgctg gcctTTtTcca agaaaaggcc accttaactt gtatgaggaa aaaatcctaa 540
ctattctctt tTTtTgtatc tTTtTTtccg taactgtttt gattgtatat tTTaaagaaa 600
ccacttaatt tgtgatgcac gtaatatttT tgtgaacctg agaatatgtc acaataggaa 660
aaagcagaaa ttatacttag gggacatgtt aggggggtaa aaatatttaa gcctcgaatg 720
ttttactgtc atctccacta actattTTta cagaaaaagc taaaaactct gttgtaatta 780
ttgtaagttt acttattttat actTTtaaat taggctTTtTc atacttaaat tTTtTgaca 840
tttgcTTtTta atatttTgtt cTTaatgtTg aaattgtTga tTTtaataat caaattatta 900
ggataataga tatattTTta aacattcacc tcattaacaa atagatcttt gaattTTtat 960
taggtTTtTtT ggctccagac aactgtTTtag cTTtaatgat atttctaaat tcccagtTgac 1020
ttattaataa aaacaggaaa aatatttagg taatgtcata aaatttattt taccttTctc 1080
atttTctgag aaaataaatg aaaaaaaccc tagatattgc tttattacca acagtgtTga 1140
ggTTtTtTgta catatggaaa tttgacacaa aaaaataggg aatttTgata gagaagtTtc 1200
cctcttataa aaggactccc atttgattgt tcgaaactat aaaatgcact tttactttac 1260
cataTctgaa atgacaaaat atcgcccttt ggaaaacctg actcTTtTgca cgtgtaattc 1320
ccagagtcta cctcagttaa ccaggcttag tTTtaggcag gaatgaattg aattaaattc 1380
agttcatcat ctatgcagat ttgttTcttt taagcacatc cttccctcct gctgtTgccc 1440
tcctcccatT aactTTtTctt tTTaatctTg aaattgtTta aaatattcca tcttTctTtc 1500
tctagcaaag tgttTgtatt ccaaataagg cctctgtgaa atgtctgaat tactTTtTccc 1560
gtcTTtTgTta tggTcagctt cattattTgg atgtattTgca ttcaaagcag cagttccaaa 1620
cataacacac atctattTtTc ttagagtTtt gtaaatacag actaacTga tgacattaaa 1680
aattgtTgat cctacatgtt cctatgtTca ttctctaaaa acctgagtaa cTTtatgaaa 1740
acacacaaaac ctggaaaaac atcacatttt tgtcacattt ttactgacaa atgtatatTc 1800
atatgatTgt acggcagcag ggagtTgccc ccagtTaaaca tggctgtgag tggacacagt 1860
gtctcgcagg atcactgcat gttatgatTg cttgtaagtT cgtTgtTaaag actTTtTgtt 1920
cagtgtTtTgt ctcccagtat ttgaacctaa tTTaaagaaa aagacgtTtc caagtTgtat 1980
ttattaaatg tgtTTtTtccT tacctTTtTgt gctgctactt tgctaactctc attagcttag 2040
ctgtgtTtTgt gcataggTta tattTgTtaa taaattTata gagtgtTggt tgtaaaaa 2098

<210> 70

<211> 1332

<212> DNA

<213> Homo sapiens

<220>

<223> nbla20555

<400> 70

```

tggaacgac aggaattgcc ctctgcagta aatgacgtt attgctgaca ggcaagggga 60
aacatctcgc ccaccatact ggcaaccaca ggcctactgg ctattaagta tgtgcgttcc 120
gtggtcagct ggtcctggtt tctgttttct ggggacttca tagctgttag cccatgggca 180
gttgatgtcc ccagictgag ttttgtttac ttcctgtgta aagagtagtc cctctatatt 240
aataccatga tgatgtttgt actcattacc catcccctag cacacactct ctccctttca 300
gtcacttagc aagcactcaa taagttcagc aaatatattgc tgggtaccta ttgtgtgctg 360
catacttttg tagggacaag gtatgcagtg attaataaaa tagagaattt ccagtattgt 420
gttgatga aaacaaaact gatgtggtgg ggccagcata ctgagaggcc gaggtgggag 480
ggtcgcttga ggcaaggaga ccagcctggg caacaaagt agacctcatc tctacaaaaa 540
aaaaaaaaa ttaaaaattg gccatgagtg gtggcatgct agttgggagc ctgaccagg 600
gggttctactg gagcccagtt caaggctgca gggagctatg atggtgccac tgcactccag 660
cctgggtgac agagtgagac cccatctcca aacaaaaaac aacctaggct gggccgggag 720
cgggggctca cacctgtaat ccagcgtt tgggagctg aggtgggtgg aacacttcag 780
atcaggagta cgagaccatc ctggccaacg tgctgaaaca ctctctctac taaaaataca 840
acaacagccg ggcgcagtg ctcatgcctg taatcccagc actttgggaa gccgaggcgg 900
gcggatcacg aggtcaggag atcgagacca tcctgactaa cccggtgaaa ccccgctctt 960
actaaaaata caaaaaaatt agccgggtgt ggtggcgggc gcctgtggcc ccagctgctt 1020
gggaggctga ggcaggagaa tggcgtgagc cattcgggag gtggagcttg ctgtgagccg 1080
ggatcgcgcc actgcactcc aaaatccagc ctgggcgaca gagcaagact ctgtatcaaa 1140
aaaacaaaca aacaaaacaa caacaacaac aacaaaatta gtagacgtg gtggtgcatg 1200
cttgtagtcc tagctgcttg ggaggctgag gcaggagaat cacttgaacc tggagggtga 1260
ggttgcatg agatggagggt gcagtggcac tgcacactcc agcctgggtg acagagcaag 1320
actccaaaaa aa 1332

```

<210> 71

<211> 2014

<212> DNA

<213> Homo sapiens

<220>

<223> nbla20645

<400> 71

```

gtgcagacac acatgcaaga tacctgtgag gctgagcctc aagggggtct ccaggtacct 60
agatgacagt tgcgtgactt ggcacagcgc tgaatatgga ggcaagccc tgggttgact 120
gagaacacca aaggcctttg cagctgttgc ctcaactact ctcatcccct tgttttcttg 180
tgctggcctt ccttgagct tcttaactgg aattttatct ctgatgacca ctggccagc 240
tgcaccattg atcatataca ggctcccttg ctatatgcat cgtgtcacct ccaagaaagg 300
ggccgggcag cagggcactg gggatatgtt ttagagcgta gcctttggtg tggggtggca 360
ctaagggaac acaaaagtgt tgttgaggat gtatcccacc atggatcatg tcatcccata 420
gggttcaggt tcaagacagc tcaagagcgg gtcctccctc cctcccactc tcaaggggat 480
ttaagataca ggtgttcgtc ccggtgcctt gcattttgca aatagaaagc tcaggctgga 540

```

ctctgcacgg gagcaggagg agtgcacaga gaagtttgag agcctgggtc tcttctagca 600
tcatggtttc atgccatgtt cttcaaaacc cacggagaag gttctgcatg ttgccccta 660
ggtgactttt ttaacttaa ttaactatt gtagaaactg ttaggaaaac cgccttgct 720
gtcaaccttt cactcatgtg ggtggcagaa aggagctttt gagtgtggtc ttggccaaat 780
gggaacccct tgggggccac cgggtgcttg cttcaggctg ctgggtagtt ttgtgctgat 840
ctcaggctgc tgctgtgca tctgccttgt cgcagtggt caagaactgg gaggaaactg 900
ctctcctttg ctttctttat gcatgtaaca ggattttctc aacactgtgt caccaaagca 960
aaacacagaa ataatttggg ggctaaggct gtaactagcc ttcataacct tatctgtaaa 1020
actttgattc actcagtctc atttttggct ttttattggg tcaaagatac acattttaac 1080
tcataaagga agagtatact aataacccat tactgctatc cgtttgacgt attgagatcc 1140
acaagagatt taatttcgag agggagagga agggttctgc tgctaagtcg aaaaatcaaa 1200
gaagttagaa aaacactgat ctaccgagta gagcactgtg ctcaggatta aagacctgga 1260
ttctcaccta gttttgccag ggaccagctg tgtgatctta ggcaaatcac atcacttctc 1320
tgggtctgta aaatggggag gttgaactgg taagatcttt ttaccttga aattctataa 1380
atgtttctaa ctccatttcc ttcttacttg acttttccag cagcacttta tcctttaaag 1440
atctgtggtc atcactgacc tcagagccct tgcctctaga ttatcttacc ctgaaatact 1500
taggttttaa ctctgtggat ctggaacact tcaagagcca gattgtttga aactttaatg 1560
gggtataccc ctgcttcagc ttaacattat tttcaaacca acaaacatgt cccgcaaaca 1620
catatattta aatgacatga catctgtgtg ggctggagtg tttttccgc ctcagcggca 1680
gccatactac tacaccagtc cagatctgtt tgcagagctg ccgtgttggt cagtccagag 1740
gtgctgtgctg tgttgatttc tgcattggagg tagtcaacaa gacagccctg ctttaattatg 1800
aaatgtctgt agcacctgt gtacgaaggt gtatagaagt gtatagaaag cacccaaaag 1860
agcagcagct tggctgggag tgggtggctca cacctgtaat ctcagcactt tgggaggcca 1920

aggtgggagg atcacttgag gtggacggat cacctgaggt caggagtctg agaccagcct 1980
ggccaacatg gtgaaacccc gtctctacta aaaa 2014

<210> 72

<211> 1753

<212> DNA

<213> homo sapiens

<220>

<223> nbla20713

<400> 72

ttcagaagcc ttggaggaga ggcaactgctg agctggaggc cgagagcctc tggccgagag 60
gcccaggccg aaacagaggc tccttcgccc tatttttcct agatgtggat ctaggattgc 120
taatgaaaac agagaaacca gacttagcgc cgactccagc tcccgcctt acatctggag 180
taagagaaaa ggccccccgc tcctccataa acgactcgaa aacgggagggt tgtttataaa 240
cttgtggatc cggttgttga ggcgtgcagc gccgaggcct ccccgccggc tagggtagcg 300
ctaacccttg tagcttctct gcaggggctg ggactcccc atcgatctct ttcctctctg 360
gttcaactgtc tcctccggcg caggaagctc cgggttggtg tggaaccagg tatcctctct 420
gaatttctct ttccactttt ctgcccctcg ctttctctgt gtccagaacg aaatcttgaa 480
aagcacagtg agcagcaacg acaagaaaac caaaggccgg acgggctggc cgcagcacgt 540

ctgggccctg gagctcaagc agtgaggagg aggagaagga ggaggaggag agcgcgagtg 600
 agcagggggc aaggcgccag atgcagaccc aggactccgg aaaagccgtc cgcgctccgc 660
 tctgaggact ccttgcatth ggaatcatcc ggthttatth tgtgcaatth ccttcccctc 720
 tctttgaccc cctttgaggc atctgctccc cgtctcccc tccaaaaaa agtggatatt 780
 tgaagaaaag cattccatat tttaatatga agaggacact cccgtgtggt aagggatccc 840
 gtgctctcat agattctgtg tgcgtgaatg ttccctcttg gctgtgtaga caccagcgtt 900
 gcccccgcc aacctactca accccttcca gataaagaca gtgggcacta gtgcgtttgt 960
 gaagtgtatc tttaatactt ggccctttgga tataaatatt cctgggtatt ataaagtttt 1020
 attcaaagc agaaaacagg gccgctaaca tttccgttgg ggtcgggtatc tagtgctatc 1080
 cattcatctg tggctgttcc ctctttgaag atgtttccaa cagccacttg ttttgtgcac 1140
 ttccgtcctc taaaactaaa tggaaattta ttaatatga aggtgtaaac gttgtaagta 1200
 ttcaataaac cactgtgttt tttttttaca aaaaccttaa tcttttaatg gctgatacct 1260
 caaaagagtt ttgaaaacaa agctgttata ctgtttttcg taatatthaa aatattcaga 1320
 agtaactaa attatcatga ttgcctctaa ctttatthta aagactcagt ggttccaacc 1380
 agtcaccctg acctgcggcc tacgcaggag gaggagggtc tcttaaagag aagtgtcctt 1440
 gttacaaatc ctgcaaatgg tctggggttt gtcgggtgtg tgtctccttc cctcttcccc 1500
 cagctggaga acgctgagta gtctctagaa ggaagatctg ggctggagaa cccagtccgg 1560
 cagttcgtc agaaggtgta aagggtctct tgccttctctg aagtcaatca gaagccattt 1620
 cttgaggccg tcagtttttg tttggagagt gtttctggtg gaggagtgtg gaggagaacc 1680
 ccggcattat tgctgcaacg ggaactagtc tgggggtgtt aattcaaact atggggcctt 1740
 catccaagaa aaa 1753

<210> 73

<211> 1769

<212> DNA

<213> Homo sapiens

<220>

<223> nbla24250

<400> 73

ggggaggatt tttgaaattt tatctctaaa aacagttttc caattcagag tttttaaacc 60
 ccttttaaaa atatagtttag ttttcagtggt tttcttttac ttttagtggt ttacacttg 120
 gaagtcagat atctaaaaat agggaaatgtt cttttgctat ttttagatct ctactaaaat 180
 gtaatctgta gtgttttctt gtttcagagc atatcttaaa agattcagac aagtggcatt 240
 tggggacctc ttccccatcc actggctttc actcaaagga aaataagact tcttggttct 300
 ggcagatact gtctctggca gaattgggtc cactgttttc cttggggagc attttaggta 360
 gtatgttgaa agacagatat acatcagttg aagacaggat cagatgctat ctgggtaata 420
 aagcttatga tcagggaagg ggcaaagaag acagatacca ctaccatttt gttctttctg 480
 gttttactaa tatgaccata atgagtcatt ttttatgcat ataggctatg tgtttcaggt 540
 tgcctttcct tttcctccta cagatctatt gagctttgtg ttctaaacaa gatagtgtgc 600
 ttatctgaat gtttcccatc tgtctttgat gaaaaagctc ccagttaaac taatttggat 660
 ttattttttt ttctgtctta ttccagttct ctgctatgtg tgggcaagtg cctgttttat 720
 cttgaggggt agatttttagc atttgaactc tctccctttt taaaatcacc ttgttactta 780
 cagatcatct cagtccagta acttttcttt ataaaggta aaagattgtt tgctttcttc 840

tcaggtagtc tcagtggtct cagccttgag agggaaaggg acatacttaa tattttcttg 900
 tcttgcttgc taagagctgt ttttccttcg tcatgtgttg ggcagggcta gccacccatc 960
 tgttggaacca gctacttcat aaaactttca aaggatgata gtaggtgaaa tgaaattgac 1020
 aagagtgttg gatgcaggta gaatgaaggg tctgctgtag cgtgtatgtg gacttctttc 1080
 ttttgtttat gttcgtaaaa gtggagagac tctggatata gaaagggtaa tagcaaactg 1140
 atatctccag tacctgtctc ctatatgac aaaaacatta acaatgtgtt ggttttgtaa 1200
 aattgctact gttttgttct gaagtgtgt agccattagc tggattgtaa cagtaatatg 1260
 acagctgtat agtaaaatac tgtctctctt tatgatagga aatgaaaaag catctgttat 1320
 gaagcctcag tgaactaaaa gccattctct gaaaagtcaa gacttttggg ctttatcagt 1380
 agataaacat gagccatagg ttttctagca atagaatatt ttaacctata tgaatatatg 1440
 ctttataggt gagactgcta tttaatgaga gttttaaagt aactaaacct tgttgacaga 1500
 attcaggatg gaaagtttta ccctaaataa aacttcagga tattgaatat gatagcaaag 1560
 ttccagggta tgttttatat ttatgaacaa ttttcatttg aatatttggg gcttgggggt 1620
 tttggtgaga catgttcatg tatgttatat acaaaccttc aggctggca tgggtggctca 1680
 cacctgtaat cccaacactt caggaggctg aggcaggagg atcgcttaag cccaagagtt 1740
 caagacccat ctctacaaaa aattaaaaa 1769

<210> 74

<211> 1819

<212> DNA

<213> Homo sapiens

<220>

<223> nbla24254

<400> 74

agctaaactt ggtgcctgaa gaagagaatg aattattgca gcttagttct tcatatacat 60
 tgaagaatga ttatgaaacc ttaagtttat cagcattttg gatgaaggta aaggaagact 120
 ttccattgtt aagtagaaaag agtgtcctgc tattgtacc attcacaaca actagtttgt 180
 gtgaactagg gttttccatc ttaacgcagt taaaaacaaa ggaaagaaat gggctgaatt 240
 gtgcagcagt tatgcgggta gcattatctt cctgtgttcc agactggaat gaacttatga 300
 acaggcaagc acacccatca tagtaaataa aaatcttacc tagcttttgt ctttgtattt 360
 cttattttgt agtatttttc tatgttatat ttaaattgga ctataatact gtgatacttt 420
 tgttatgttt taatttttgt tatatttaaat aaaattattt tatgttcatt gaacaaaaat 480
 ttaatgaatt tctgttagag gccaggaact attctagaga catttgggat acaaaagtga 540
 acaaaacagg taattcccta gtagagtta tatcctggca aggagaaatt gacaataaac 600
 ctaataaata aggtttataa tatttagaag ctattaagt ctatggaaag agtagtaaga 660
 aggaaggta ggggaagtact ggggaaccaa accatgaagg gttctgtaga ccattattgg 720
 gcctctggct tttgtcagt gactagagaa cagtgaagg gttaagcga aggagagaaa 780
 tgatctgagc taggttttaa aagacactct ggtcactatt ttaaattctt agggtaagtc 840
 tgaattaaat gttactttcc cctcactggg catggtggct cagacctgta atccccgcac 900
 tttggcaggc catggcagaa ggctctgttg agcccaggag ttcaagacca tctggggcaa 960
 catagtgaaga cttattttct actaaaaata ttttaaaaat aagtcagggtg tgggtgtgca 1020
 cacctatagt cccagctact caggaggctg tggcaggagg gtcgcttgac ctcaggagtt 1080
 tgaagttgca gtcactatg attgcaccac tgcagtccag cctgagcaac agagtgaac 1140

cctgtctcga gaaaattaaa tgttacttcc ctaaaaaac cttttctaac caccctaggg 1200
 taaatcctcc attattcctt tatttctttg ttttccttgt atataatttg taataatttt 1260
 gattactgat tgcattctg ccacctgga gtatataatt ttaattatc tgattactgt 1320
 tattcttcca tagtagggga ggtgatatcc atttgctga tacatagtat gtgttcaata 1380
 cacatttgct aaagaataaa tgaatcaata atacctaa tctctaattt gcagtcattc 1440
 ccaagagtaa ttattaaata tgtggcaaat ttctttgcct ttttactttt aaaaatctaa 1500
 ttttgacata actgctgtaa ccatccagaa acggcatiga tgttgcttca cgttgctgat 1560
 gcttaagcaa tgtatattgt gtaataataca atgtagtctt caaactaatt tcaacttctg 1620
 cctttctgtg tactccctta tccactggg tgatattatt tggcatggc attgtcatta 1680
 aatcataca ggatagtaat tctttccat ctgctacat gcctagcctt atttaatttt 1740
 tcagattttc tgttctattg aaggtaattg atttttctt ttttttaat gcttgaaata 1800
 aagtgttgaa aaacaaaaa 1819

<210> 75

<211> 2512

<212> DNA

<213> Homo sapiens

<220>

<223> nbla24327

<400> 75

atgctttaga tcaagggtta gcaaaccact gcttgtttg gccacggcct gttttgtat 60
 agtgtgggag ctaagagtgg gtggtgtaca tttttaagg gttatgacaa cgacacagaa 120
 taatatgaga cacaaaccct atgtggccca taaaacctaa aattctactg tctagctctt 180
 cacagagaaa gtttctgat ccccgttta gataatgggg gtgctctact actccccctt 240
 tcatattatag tgttacataa gcctaaataa tcaactgtagc tgggtggcatc atgtttgtta 300
 cctactaagt aggtcaaagt gattgccaga catacacatg aaggccttga attagaaagc 360
 aaaggaactg atgatgacca atgtttaaca aaattcagac tgactttgtg cctgatcctt 420
 caaaggctag aggtgatatt tttggtacct gaaacgtaat ttccctgata agtactctt 480
 gcccaattat tgcattatcag ctgagatatt aatgtctgaa ttattcagct catatatctt 540
 caagcactca actagttcat actttgaaat caattctaata agacaattct cataaacacct 600
 ttatagtctt cccatttaaa aggtaaatgt tgttagggct ggaggggtaa gatgcaccct 660
 tggtatattg tctgatctca gcagaatcaa ctacttggtg gtgtagtcca gagaaaatgg 720
 gtcaaatcta ttaattattt taggatattg aaattcataa ttgagactcg tgacttaata 780
 gtgaactgct catggtactt taccagctt tcaagttgta tgccttttgt aggtaggcat 840
 ttagatggga tgcttttgaa agcataatta agaaacttta ctggaatttt gtttataatg 900
 ggctaattgt atttcttat agtttgcagt gttgatgtgg gtatttacct atgttggtgc 960
 cttgtttaat ggtctgacac tactgatattt gggtgaagtct acaaagccat tgggatgaaa 1020
 aattgctgga aagatttgtg gccaggagct tagacatttt agtggagaat attctcattg 1080
 tatgaaaagt aggggatgaa aatgtgggcc gggcgcggtg gctcatgcct gtaattcccag 1140
 cactttggga ggccaagggt ggccgatcac ctggggccag gagttcgaga ccagcctggc 1200
 taacatggtg aaacccatt tctactaaaa atagaaaaaa ttagctgggc gtggtggcgc 1260
 acgcctgtaa tcccagctac tccggaggct gaggcaggag aatcacttga gcccaagagg 1320
 cagaggttgc agtgagcgga gatcgtgccca ttgcactcca ggttgggcaa caagagttaa 1380

actccatctc aaaataagtt tgaggttgta ttctctttaa ataagttggt gatactgctt 1440
cccggtttat tgaatgcta ccttagttgc tgaagacagc tcctactaac aaacagtgat 1500
aaaccagata aagggtggct ttatatgatg gtgcagtcac aaatctaacc agggatacct 1560
ttattttatg aaatctcact gtgatatgat ttgaagctag aaatgggtcc tagctctaata 1620
aactgcagcc tcacacagtt cattcattcc tctggagtgg ctctcaaca gcagatgcat 1680
ccagagatcc ttatgttttt attcattcat taggaacact gcttggttat cttgagttgc 1740
cagtttaata gttttttgag tgtttattcc tcccaaatca ttccattctt ttgaaaagt 1800
tgtatatttc ccttttcagc tctcatttca ctcttcagtg ttctgttat ttatgaacgg 1860
catcaggtaa tttcctaact aactgctgac ttcagaatag agcactcact ctattacatg 1920
ggatttacgg atgtattagt gccattttc aatgtcttac aaaaatgaga agtgtgatgg 1980
tttcttaagc ctttagcttg acacatagta gtggttaata agcttcttta gcaacggtaa 2040
taattccttt atacctctct ttcaggcaca gatagatcat tatctaggac ttgcaaataa 2100
gaatgttaaa gatgctatgg ctaaaatcca agcaaaaatc cctggattga agcgcaaagc 2160
tgaatgaaaa cgcccaaat aattagtagg agttcatctt taaaggggat attcatttga 2220
ttatacgggg gagggtcagg gaagaacgaa ccttgacgtt gcagtgcagt ttcacagatc 2280
gttggttagat ctttattttt agccatgcac tgttgtgagg aaaaattacc tgtcttgact 2340
gccatgtgtt catcatctta agtattgtaa gctgctatgt atggatttaa accgtaatca 2400
tatcttttct ctatctgagg cactggtgga ataaaaaacc tgtatatttt actttgttgc 2460
agatagtctt gccgcatctt ggcaagttgc agagatgggt gagctagaaa aa 2512

<210> 76

<211> 1564

<212> DNA

<213> Homo sapiens

<220>

<223> nbla24510

<400> 76

ttatcgatac acagcctctc tgagctggag cgtctgaagc tgcaagagac tgcttaccac 60
gaactcgtgg ccagacattt cctctccgaa ttcaaacctg acagagctct gcctattgac 120
cgtccgaaca ccttggataa gtggtttctg attttgagag gacagcagag ggctgtatca 180
cacaagacat ttggcattag cctggaagag gtcctgggtga acgagtttac ccgccgcaag 240
catcttgaac tgacagccac gatgcagggt gaagaagcca ccggtcaggc tgcgggccgt 300
cgctcggggaa acgtgggtgcg aagggtgttt ggccgcatcc ggcgcttttt cagtcgcagg 360
cggaatgagc ccaccttgcc ccgggagttc actcgcctg ggctgcagg tgcaagtgtct 420
gtggatagtc tggctgagct ggaagacgga gccctgctgc tgcagaccct gcagctttca 480
aaaatttcct ttccaattgg ccaacgactt ctgggatcca aaaggaagat gagtctcaat 540
ccgattgcga aacaaatccc ccaggttggt gaggttgct gccaatcat tgaaaaacat 600
ggcttaagcg cagtggggat ttttaccctt gaatactccg tgcagcgagt gcgtcagctc 660
cgtgaagaat ttgatcaagg tctggatgta gtctggatg acaatcagaa tgtgcatgat 720
gtggctgcac tcctcaagga gtttttcgt gacatgaagg attctctgct gccagatgat 780
ctgtacatgt cattctcct gacagcaact ttaaagcccc aggatcagct ttctgccctg 840
cagttgctgg tctacctgat gccaccctac cctcctccag agagctcagt tggaaaggcc 900
ctcaagaggc atgctagaac gttaggtcag cctactgaca gctgacaaac aattaatgcg 960

```

aatcatgtc acaccaaccc atagccgtgt ccacgcagca actccaccac cttaggattt 1020
ccccctccaa attattcaga ccaatggctt gccaaatggc ctctcccaa attctgtaca 1080
gttttgc tca ggtcacgcca acagggaaac ctcaagtgt ggtctaatta gtgtttcttg 1140
gatccaaagt tagaggaaaa tttagatttt attgcctgga tctgcttta agacaattgg 1200
tgtttacacc ctcttgcag caaacagct agttaggtaa ggacatatag ttccaagtag 1260
gtaaagtcac ttgattacaa atgttcttaa ctatcgtctc tgtaattcct ttatacagga 1320
cagtacaaaa ttgtgggaca tgctctggta acacacagat atgggttgca tatgatccag 1380
aattacagct gatattatgg atgacaactg ctaagggtcca taaaatgaag actgtattgt 1440
attgagggat agaaattgat catttaattg gtaacaactg ctgagctcaa agatttgtga 1500
ttgttaaac tctctggca tttaatcatt aataaacatc tgtattgtga cagcagcata 1560
aaaa 1564

```

<210> 77

<211> 1666

<212> DNA

<213> Homo sapiens

<220>

<223> nbla24554

<400> 77

```

aattttttat aatcctcaat tatgaaccac cttgtttata ggacaaaaaa atttaaccaa 60
ttttattgaa acgaatttca ctgtgtaaaa gttggtttga ttcaaactg tagagaagtt 120
gtagattcaa gatatatgat ttctctatgg aaataaaaaat atttggttagt gaattgggtg 180
agttttgatt cctctaactt ctcaaatga tttcttagaa ttctataatt catagcaatt 240
tttgacaagt aagattgcaa aatagaaata tctataaaga ttccacagtt tgacattatg 300
gcttgctatg cagatgtgaa aatagggtta ataatatgaa agatatggca gaatgtaaag 360
tgaaaaagat gacctaaaat tttagttgt attaatagtt aaaaacattt gtgtcagatg 420
acaggggtggg cttttactgt caagacatga ataagaactg atctggctgc ctgatgagtg 480
tttccacgca gccctgcata tttagtacc aaggcatcaa ggacatcccg aaactggaaa 540
ttcatatcca tctggatga atataaact cagctggcaa atgaatgtgt ttgttgagat 600
attacagtaa taaaacactt aagaacagga agattacatt tgttggcata cgaaacctta 660
gtggctacag aagaaagttg accttgtgtc actatttatt ttatgccctg atcagactag 720
caacttagat aagtgaagt ttttctaaca tgccttaaaa atattatggt ttgatccaaa 780
gacccacttt ttcttttagct cttgtgataa gatcttcttt tttttacttt tatacaaagg 840
cagcatcttt gaattttttt ttcttttgat gttgcaactt ttgggttctt ttaaactgtg 900
atagtgtggt taactgatgc ctttcatttt gttcaactta cacaaaacaa gccagcatct 960
gatcaaaagt attacataaa atattttctt aaactattga aaggtgcttt gatgattttc 1020
tcctttgggt tgtagaatta ggactgaact tttagctcaa attgctacag ttgccatcac 1080
ctttctgtgg taatactact gatatttgct tttctatata aagaaatgtt gcctaaggct 1140
gtctggtatt tcttttcaag gttttccag tatgaatgtt aatgttgtca gtgtatgtat 1200
gaatatgaaa gtgctttgtt ttgtttgttg ctgttttttg tttatgtgtg tgtttttaat 1260
ttttttgttc ttatcagcag tcttgtgtta gcaactgggt agctttaatt gtcccttagc 1320
caatcaaaca ttaaggacta tggaggtctt tttttttttt tatttaacat gtcattgttc 1380
atctattaaa tcttgatcag gttttcaaga atgactgcag tgggttttgg aaacagactt 1440

```

atcattattg atttgagggt tcccagagat atagttcaca gttaattggt gcgctctaata 1500
 acaactgacc attttaaatt gaacaagttt attgttttgt aacaatgtca gttgttaaac 1560
 cttgacattt caattaaaac atgaattgta gttataactc aatgcaaatt caacagttgt 1620
 atttgaggtt aaattatttt aacaaataaa tttatttaaat gaaaaa 1666

<210> 78

<211> 1374

<212> DNA

<213> Homo sapiens

<220>

<223> nbla24604

<400> 78

attagctggt actgcagcac agacctgctt gtgtgtgcc ttccccagat ggtaggatat 60
 aagcttgact tgagaccagc gatggtcagt aacaggcttt gaagtggcag gattgcgtta 120
 ggtgtgctgc tgtgatctgg tgcgtcttg accttgaaag caggataacg catgcactta 180
 cttacccccg cattacttgg gtaccttaag gactagtggg tcacaactta ctttaggagc 240
 ttttatttat tctgtaacac gtgagatctg gtaagacagt ggggggtaag gaaaacagac 300
 aagaccatga ctcttcttcc cctcttcccc aaaacgtgcc tcttggata atcttcagt 360
 tgccctccag cagagccgaa atcaggcagg catagactcc ctctctctc atcaaaccgc 420
 agaaatagag ttccttcac ataaccgcaa agcttctcc tcccccttgc accctgcctc 480
 agctgcattt tcttgctgct tctacatggg agtgcttgct gttctgggaa gagtggggag 540
 aagcgggtgg aatccttgag ccaattgaaa ctgaggtcat cttcaggaaa accatgtctt 600
 cctgaagttg aaagattcag gcacaccata cagtccttcc ctcatgaata atcttgttct 660
 ttactcatgg gaaattggga gaggttaacc cctcccaagt ttatgtttgc aaattcatgt 720
 ttatgggtcc aggtgaaaaa ctttctgaa cacagcatgc tacttctctt attacctctc 780
 tctatttaaa gaatggctag gctgagcatg gtggctcaca cctgtaatcc cagcactttg 840
 ggaggctgac atggcaggat tgcctgagcc cagcagttca tgactaagca acatatggag 900
 attctgtcta tataaaaaag taaaaaatta actgggtgtg gaagtgcata cgtctagtcc 960
 caagctactt gggaggctga ggcaggagga gttggaggct gcagtgcagc gtgattgtgc 1020
 cgctgtatcc agcctgggtg acagaaaaag aagagaccct tcctttaaaa aaaaaaaaaa 1080
 aaaaaaagcc gggcgtgggt gctcacgtct gtaatcccag cactttggga ggccaaggcg 1140
 ggcggtacac ctgaggtcag gagttcttga gaccagcctg gccaacacgg caaaaccctg 1200

 tctctactaa aatacaaaaa ttaactgggc atggtgggtgc acacctaca tcccagctac 1260
 tctggaggct gagacaggag aatcgcttga acccaggagg caggggttgc agttaggtag 1320
 gatcgtagca ctgcactcca gcctgagtaa tagagtgaga ctccatctca aaaa 1374

<210> 79

<211> 2478

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21037

<400> 79

aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaagaagcg agggctcggg 60
atcgacggcc gcggggcgcc gacgaggagt gcaggactca ggaagggcga gtgcgcggcg 120
acagagcccc gggaaggagg cagggcaagg ccgggcttgg gggcaggtgg tccgggcac 180
cagccttgaa gatgcacaag aggaaaggac ccccgggacc cccgggcaga ggcgcgcgg 240
ccggccgcca gctgggacct ctggttgacc tctccccaga tggcctgatg atccctgagg 300
acgggggctaa cgatgaagaa ctggaggctg agttcttggc ttgtgtcggg ggccagcccc 360
cagccctgga gaagctcaaa ggcaaaggct ccttgccgat ggaggccatt gagaagatgg 420
ccagcctgtg catgagagac ccggatgagg atgaggagga ggggacggat gaggacgact 480
tggaggctga tgatgacctg ctggcgagc taaatgaggt ccttgagag gagcagaagg 540
cttcagagac cccacctct gtggcccagc cgaagcctga ggccccctcat ccggggctgg 600
agaccacctt gcaggagagg ctggcgctct atcagacagc aattgaaagc gccagacaag 660
ctggagacag cgccaagatg cggcgctacg atcgggggct taaaacactg gaaaacctgc 720
tcgcctccat ccgtaagggc aatgccattg acgaagcgga catcccgccg ccagtggcca 780
taggaaaagg ccggcgctcc acgcctacct acagccctgc acccaccag ccggccccta 840
gaatcgctc agcccagag cccagggtca ccctggaggg acctcttgc accgcccag 900
cctcatctcc aggcttggct aagccccaga tgccccag tccctgcagc cctggccctc 960
tgggccagtt gcagagccgc cagcgcgact acaagctggc tgccctccac gccaagcagc 1020
aggagagata cactgtctgc gctagacact tccgctggc taagagcttt gatgtgtct 1080
tggaggccct gagccgggt gagccgtgg acctctctg cctgccccct ccaccgacc 1140
agctgcccc agaccaccg tcaccaccgt cgcagcctcc gacccccgt acggcgccct 1200
ccacaacaga ggtgccccca ccccgaggga ccctgtctga ggcgctggag cagcggtagg 1260
agcggtagca ggtggccgca gccaggcca agagcaaggg ggaccagcg aaagctcgaa 1320
tgacagagcg catcgtcaag caataccaag atgcatccg agcccacaag gctggccgag 1380
ccgtggatgt cgtgaattg cccgtgcccc caggtaggcc ttggccctgt aggcctcgcc 1440
ccagtaggcc ccgccccct agggcccgcc cccagaggcc ccgcgctgg caggctgtgc 1500
cccaagctcc tgttctcca gcctctgagc cttggcagat gctattact cccatagcac 1560
aggctcagg agctgaatac aacataattc agggttttgt aaacttgta atcagtgga 1620
gcttgacatt ggacatgatg tgtctgact gtagaaattg gcaaaccggc tggacgaggt 1680
ggtcatgtct gtaatcccag cactttggga ggctgagggt ggaaaatcac ttaggccag 1740
gagttcaaga ccagcttgg caacgtggca agacccctg gctacaagaa atttaaaaat 1800
tagcctggtg tgggtgtgca cacctgcagt cccactctag atcatgccac tgtactccag 1860
cctgggcaac agagcgagat cctgtctcaa aaaaaaaaaa aaattaatta attaaaaaa 1920
gtaaaggccc aagactctat aggtgggaga ggaatctgca tctccaccat aatggtgtga 1980
gttggctctc atcctgacac acaataacca ggcctcgact ggccaccag gcttcccc 2040
aatccagggc ctggaggcca ccaagcccac ccagcagagt ctggtgggtg tcctggagac 2100
tgccatgaag ctggccaacc aggatgaagg ccagaggat gaagaggatg aggtgcctaa 2160
gaaggtttga gggttggggc cgggcgcagt ggctcacacc tgtagtccca gcactttgg 2220
aatccaagat gggaggatcg cttgaggcca ggagtttgag accatcctgg gccacacagt 2280
gagaccccc tctctacaaa aaaattttt aaaattagcc aggcattgtg ggactcacct 2340
gtagtccctg ctacttggga gactgagggt ggaggatcac ctgaactaag gaggtaagg 2400
ctgcagtgag ccatggtcat gccactgtac gccagtctgg gtgacagagc aagacctcat 2460
ctccaagaca attaaaaa 2478

<210> 80
<211> 1337
<212> DNA
<213> Homo sapiens

<220>
<223> nbla21161

<400> 80
taagggaat tgtcattaat gagtcaagaa actgctcatt tatggtaaga ggaatacagc 60
ggcgtggca gcccaacagt gctgggatat ctttttagg ttgccttagc tgcttgagtg 120
agacaagttt ctttctgtgg tgggtggattg tggcagaaaa aaaaaaatca tgcattgactg 180
ggagactcgc ctgcctgatt cttgagataa tatattgaga atctgttgct ttacaaatgt 240
cacatcactg atgtagcggg cagccccctca ctctgaaaga tgaattgtac tattggaaat 300
gcgataataa ggttgacttt tcccaacaat aggattctgc ctttgccttt agagaaaagg 360
cctctgagga ctttctgtca tttgtttgag gattctgttg aaagacttta aagtggaggt 420
ttgtggaaaa gtgatcaata tacaaaatgc atgaatttt agcctagcaa aaccagctag 480
ttattttatac tgtatataca gctactattt tggaaaagtg gccagaatac cttttaatat 540
acctaattgt aatttatggg tcaataagt tactgaggtt agtatggatg ggagaaaagg 600
gtttttaaaa tttttatctt ttataacctc cagagaaatc taagtaaata tttgtttcca 660
agtgagctgt ttttatttgt gttgttcagc attgtcttaa tgtttacttt tcacaatatt 720
ttaatattgg tgaaattgca ctgagagttt atgttgttga tttggggcac acatacctac 780
tctgtgtata tatgctgaac catttagaac actttaacct gtgaattcac cctcagtaca 840
cagttcaaca gatactgtag tactattgtg actcacagga cttttatac atttgctaaa 900
gaaattactt taaaagttaa cttaactgag tatgtttcca ccttaaggaa ttatagtttt 960
aacatttgta cttttctatt tcatgtattt tcatttctaa tagctgaacg tattcatact 1020
caagtctaag ggattatgca gtgtacccaa cacatattgt tttatgatgt atctgtattt 1080
tctgaagtgt gaatatatat gtatgtttat atgtgtgtgt tcatgaaaca gcattcttga 1140
cagaatagtt ttaattctga aaaatgtaag gttattttct ttctaataa ttttcacaa 1200
accatttat tcttggaact tgaaaccag aaatatagct tttttttgg tctgtatgtc 1260
tactctgcct agttctgtct cactgtcaac tctagtcaaa gattaaagat tacattgaat 1320
ttgtatttg gtaaaaaa 1337

<210> 81
<211> 3268
<212> DNA
<213> Homo sapiens

<220>
<223> nbla21170

<400> 81
atttgggtca gcagaaacgg cacgattgag cagcactgtg actataggat catggatcag 60

aggctgcttc ctctttgggt ctgggcatca gcctcatgtc cactcaaagt aagtggcccc 120
tctgattgga atcggagggt cctgggtcat ctacacagagc caaacaata caattagcta 180
ttgcaaagcc ttttgggaat tattcccagt gtaaataaac acataacat atagcaagag 240
ccttgataaa gtccaaaaac atgcaaactt ggagtatcta agagaaaaga ccacaatgta 300
aatgaaaaac caaataaact cgggcaaacc ataggatagg gccctgtctg tgatggcctg 360
catatgatga gccatagaaa aaggatggtg aattctggat aataagaaat gtcaatgaga 420
tggaagaacc acctgtttta tgtaaagctc caaataacca gatcacagtg gacagccact 480
caaataatgc cttcataata cagagtatta ttgagaataa ctcaattcac agagagctta 540
aggcagccaa tatttgatag cctgtcagaa aaaaacagaa cagtaattat agaaaagaat 600
catatcctcg gaaaaacaaa aattaatcaa actaagtttg taaagtctat cttacagaca 660
cattgtctgg actggctctc tcaaaaatac ggttttttt taatgccaat ttgtttagtt 720
aatgattttt gtcttattac ttcaaaactg gaaatatcct atgactcata atatcttaca 780
acctttctac tttcttaaag aatctcaagt ttataatcac aggggatcgg attatttttc 840
aaaaattaaa tggatgata atgatttctg tgtctattgt agaaaagtca acctattac 900
agctgcaaca atggcattaa gaaatatgag taattccaat caacttgaga taatgtctaa 960
tcaaacacaa atacaactgg taaatttcat taaatagcat ggagattaaa ttaaaacact 1020
attatgtaat aaaaacctt agtggtacta aaattttaga atagttcaga tatacagaaa 1080
aatttcaaag atacacagag ttcccatttt ttctctatta ctaacctctc atatttgc 1140
caactaatga atattcaata gattattatt aactaaagc tacaattta tttagatttc 1200
cttagttttt agctaacatt ctttttctt gttccaggat cccatccggg ccaccacatt 1260
gaatttattt gtcattttag gtacctctg gctgtgagt tcttagactt tcctgtttt 1320
tggtgacct gacagttaga gggagtacta gtcagtcagt tatttttgca gaatgcccta 1380
aatttgagtt tggctgatgt ttttcttag gtttactgg ggttatgggt tttggggagg 1440
aagaccacag aggtgaagta ccattctcac caaattatat taaagtaca taccatcagc 1500
atgccttata ctattgatgt gaactttgat tgcctggctg tggtagtgtt tgctatgtt 1560
cttactgta aagtactct tctcatcac cacttttctg tactgtactc tttggaagaa 1620
agtcactata tgcattccaa atttaaggag tgggaagta tgctccacc atttgtaagc 1680
agaaaatcta cataatttgt ttggcattct tctgcatagg aaaattatct cactctcca 1740
gttatttatt tatttgatct tttttatat cagtatggac tcatgggtat ttcttttata 1800
ctttgggtta taatccaata ctaacacaat aaagaaattt ttaatggaga tgcattcaaa 1860
ttcgttgcta aaatgggcct gacacctctt gacctggct aaacagagat tctggatgga 1920
gcaaagcact gtgacgtcat gtggactttg aaggtaaga aactacggat catcaggaca 1980
tatttgcct tccatctcac agagaaaatg gggatatacc tctcattcc aggaacttt 2040
cttctatat ttctaataata tccaggataa aattcaatat atatagtcag tagcttcaaa 2100
gttaagcata atttgtttac tagaattctt aaggcagatg ttggatcatt aactcattct 2160
cttagaata actttggtgc ttataagtag gcatcacata atctgataca ctgatattat 2220
atatataatc gtgaaaaaca tatcgatta tatgatata cataatctga tatatgtgat 2280
atataatcag attatgttgt atcatataat ctgatataata aatgtttttc ataattatac 2340
atatatttca agtataattg tgaaaaacat ttgccagttt aaagtttaat atgtagacag 2400
aataatgcct ggaggtatag ggatataatt gggaattaga gtaataaaat aatatttta 2460

agtacttact acatattact cattaacaca aaagtaactt tacgtataaa atgcatgaca 2520
agactccatt ataaagaagt gtctgaaagc tatagggcag aaaggatat aacacagtat 2580
agactagaag gagataaaga caatcagaag attttattca ttcatattat caacaaaaat 2640
ttacagagta cctccaatta tcagcagctg tgctgaagat taggtatatt acctacacag 2700
ttacaaattt tgctttcatg tagtctgcag gaagagagac attaatcaaa gaatggcact 2760

attgacactt gtgcaggaaa gggttacgtc aacaggcctg ggctgctcaa accttgcgta 2820
 ttcccagagt ctcaagactg gtcttggcct ggctcctggg aagattactt ctgagccctt 2880
 ggctgagata ggagtttatg ccaacagtgt gatttatggc aaacacctgt ttttgtatgc 2940
 ctgaggcttt ggatcatgct gtaccaattt gatctgaggc ctgaagactg gtagctaagg 3000
 tgctgcatgc ctacatgact gacctccagt aaaaaccctg gacacatgcc tcaagtgagt 3060
 ttctgttggt ggcaacactt tacatatgtt gtcacacgtt gttgctgaga aaattaagt 3120
 tactccatgt aatggcactg ggagaggaca actggaagct ggtgcttaat ttctcctcta 3180
 ctccacgcta tccacctttt cgcttcgctg agtttttct gtatccttc aatgtaataa 3240
 actttaacca tgagtataac agcaaaaa 3268

<210> 82

<211> 1304

<212> DNA

<213> Homo sapiens

<220>

<223> nb1a21198

<400> 82

gataagcaga gctgtttcct ctggggaagg gagggagggt gggcggggt gcggagggt 60
 cgcgctgctg ggcacccatg gacctcagcc acggcgggccc caggagcga cctccaggag 120
 gcctgctggg ggaacagggt cggggcatca ctggggctgg aggcgggggt gctggggccc 180
 ccataccctt ggcctggatc aggcctcaga ggagccattc ctgtccatct gagcctgctc 240
 tgggcctccc gggacactgc ctttccacct tgctctgcag atccagcctc catcccacca 300
 cttctcccc gagcagcggg ccctgtctta cgaggacgca ctctacactg tcttgaccg 360
 cctgggtcat cctgagccca accatgtgac ggaggcctct gagctgctgc gatacctgca 420
 ggaggccttc cacgtggagc ccgaggagca ccagcagaca ctgcagcggg tcaggaggt 480
 tgagaagcca atattttgtc tgaaggcaac agtgaaacag gccaagggca ttctgggcaa 540
 agatgtcagt gggttcagcg acccctactg cctgctgggc attgagcagg gggtaggtgt 600
 gccagggggc agccccgggt cccggcatcg gcagaaggct gtggtgaggc acaccatccc 660
 cgaggaggag acccaccgca cgcaggatcat caccagaca ctcaacccc tctgggacga 720
 gaccttcac ctggagtttg aggacatcac caatgcgagc ttcatcttg acatgtggga 780

cctggacact gtggagtctg tccgacagaa gcttggggag ctacaggatc tgcattgggt 840
 tcgcaggatc tttaaagagg cccggaagga caaaggccag gacgacttct tggggaacgt 900
 ggttctgagg ctgcaggacc tgcgctgccg agaggaccag tggtagcccc tggaacccc 960
 cactgagacc taccagacc gaggccagtg ccacctccag ttccaactca tccataagcg 1020
 gagagccact tcggccagcc gctcgcagcc gagctacacc gtgcacctcc acctcctgca 1080
 gcagcttgtg tcccacgagg taccacagca cgaggcggga agcacctcct gggacgggtc 1140
 gctgagtcct caggctgcca ccgtctctt tctgcagcc acacagaaag gacagtttg 1200
 ctgctgtgtc tgctgcgcac gccccctccc cggacagcac ctgccaccta gaaactttct 1260
 tagcaaaaaa attataaaaa acaaatccat tctctctta aaaa 1304

<210> 83

<211> 1656
<212> DNA
<213> Homo sapiens

<220>
<223> nbla21298

<400> 83

```
gatggacagt tgggccagg caaccgtatg acttccacta acttggcctt ggtgtttgga 60
tctgctctcc tgaaaaaagg aaagtttggc aagagagagt ccaggaaaac aaagctgggg 120
attgatcact atgttgcttc tgtcaatgtg gtccgtgcc tgaattgataa ctgggatgtc 180
ctcttccagg tgcctcccca tattcagagg caggttgcta agcgcgtgtg gaagtccagc 240
ccggaagcac ttgatattat cagacgcagg aacttgagga agatccagag tgcacgcata 300
aagatggaag aggatgcact actttctgat ccagtggaaa cctctgctga agcccggtct 360
gctgtccttg ctcaaagcaa gccttctgat gaaggttcct ctgaggagcc agctgtgcct 420
tccggcactg cccgttccca tgacgatgag gaaggagcgg gtaaccctcc cattccggag 480
caagaccgcc cattgctccg tgtgccccgg gagaaggagg caaaactgg cgtcagctac 540
ttctttcctt agatgttttt ccttctataa ggtgccagac aggggaaaag ggtgggggta 600
catctgggat gtcacaggaa acattaagga gagagttgaa ggtaaagatc tgaagtaag 660
aaggagttcc acctgatgct cgggtcagga tgagaattcc aaacacactg ccagcccctt 720
cactggggat gcttggcttc ttctgctggt aaaagcagag atgtttctgt gtcatgcca 780
agctccccgg tgctaccttg ctttctctt ttaccctga tcttggttt ctctctctct 840
ctgcagactt tcctttaatt gatgtgacat ttgtggtaaa cacctttccc agggaacctc 900
acaaatcttg agatgcttc cttccccag atgggattgc atgatttccc tgactttcct 960
accctcctcc agagagctca gttggaaagg ccctcaagag gcatgctaga acgttaggtc 1020
agcctactga cagctgacaa acaattaatg cgaaatcatg tcacaccaac ccatagccgt 1080
gtccacgcag caactccacc accttaggat ttccccctcc aaattattca gaccaatggc 1140
ttgccaaatg gcctctccca aaattctgta cagttttgct caggtcacgc caacaggga 1200
acctcaagtg taggtctaatt tagtgtttct gggatccaaa gttagaggaa aatttagatt 1260
ttattgcctg gatctgcttt aaagacaatt ggtgtttaca ccctcttgct agcaaaacag 1320
ctagttaggt aaggacatat agttccaagt aggtaaagtc acttgattac aaatgttctt 1380
aactatcgtc tctgtaattc ctttatacag gacagtacaa aattgtggga catgctctgg 1440
taacacacag atatgggttg cataatgatcc agaattacag ctgatattat ggatgacaac 1500
tgctaaggct cataaaatga agactgtatt gtattgaggg atagaaattg atcatttaat 1560
gggtaacaac tgctgagctc aaagatttgt gattgttaaa acttctctgg catttaatca 1620
ttaataaaca tctgtattgt gacagcagca taaaaa 1656
```

<210> 84
<211> 1800
<212> DNA
<213> Homo sapiens

<220>
<223> nbla21379

<400> 84

gcagctgcac cgtcctcctc ogccgccagt cgtccgccgc catggacgtg tccccccgc 60
gccggcaggg gctgccccgc gctcgggtccc ctggcggctc cagccgcggg tcacctccg 120
tcagctgcag tcgacttcgg caggttcaga gcatcctgac ccagagcagc aagtctcggc 180
cggatgggat cctctgcac ctaggaatcg atagcaggta caatgaaggc tgcagagagc 240
tggtcaaatta tcttctatct gggttgatca atcagaatac cagtgtatct gagaaaacgg 300
gattttctga agaagtacta gatgatgtaa ttatattgat taaatcggat agcgtccatc 360
tgtactgtaa tcctgtaaac tttcgtatc tcttacctta tgtggcacat tggagaaatc 420
tgcatttcca ctgcatgacc gaaaatgagt atgaagatga agaagccgca gaagaattta 480
aaattaccag ctttgtggac atggttcgag actgtagtag aattggcatt ctttacagct 540
cccaaggta cttgcagata tttgatattg ttgtgggtgga gaaatggcca attgtacagg 600
cctttgcatc tgagggcatt ggaggggatg gattttttac catgaaatat gagggtgcagg 660
atgtgagttt gaattctatg aatgtctaca gcaagatgga tcctatgtct ctggagagtt 720
tgctttcaga tgatttgggt gcttttgaa atcagtggtg tagcttcttc gctaattttg 780
acacagaaat tcctttctcg ctagaacttt cagaatctca ggccgggtgag ccattcagaa 840
gttatttcag tcatggaatg atctctagcc atataactga aaacagccct aaccggcagc 900
catttgttct ctttggtaat cactccacac gagaaaacct gaattgtggc aactttaact 960
tcctttctga aggacatctg gtacgaagca ctgggtcccgg cgggagcttt gccaaagcaca 1020
tggttagccca gtgtgtctca ccaaaggac ctcttgcttg ttcgagaaca tacttttttg 1080
gagctactca tgttccttac ttgggtgggtg acagcaagct gcccaagaaa actgaacaaa 1140
tgtaagtctt catattttat ttttctttc tcaaagtga gttactcagt tgtgactgtc 1200
ctgtgtactt ctttttgaga tcaacagtga ttaagacatc tgcttttgct ggggtgcggtg 1260
gcgcacactg taatcccaac attttcgaa gctgagggtg gaggatcgct tgagaccagg 1320
aattcgagac cagcctgggc aacataagca gacctgtct ctacagaaaa taaaaatta 1380
gccaggcata gtggtgcaca cctgtggtcc cagctactca ggaggctgag gtgggaggat 1440
cacttaagcc tgggaggctg agatttctc gagctatatg attgcaccac tgcactcttg 1500
gcaacagagg gagactgtgt aaaaaaaaaa gaagaagaag aagacatctg gtttatgaca 1560
tgaacattac tgtgttgttt cccaagtctc tctcagcttg gaattcagc cagagaacct 1620
tgccagcttt gccatctgct cttctctcta gatttcagag acttcttacc tgcacacca 1680
tgcatttatg atgtaactct cttgatattg ttttctatat aatgcatttt taaattaagg 1740
gcttttctaa gaataaacca tcctgaaatc cattgggaga atcatgtgaa accccaaaaa 1800

<210> 85

<211> 2150

<212> DNA

<213> Homo sapiens

<220>

<223> nbla24705

<400> 85

agaaaaaaaa aaaaaaaca aaaaaaacta aaggaaggaa aaagctgtaa aaatcactgg 60
cattcgtggg gccactcccc acccaagctc cagctgtgtc cgtctgtgct cctggcctct 120
gggggaccag ctgggacatg aacttgcttg ccaggcccc gtcgctgtct gaacgggtgt 180
agttttaggt taacgcacac accccacacc taaggtgtct gcatcctcct gccaacgcat 240

gggctccaag tgggtgtgctc gctggctgtc gtgactgtca gctgtctctt gggaggggct 300
gtggggggccc gctgggctgc ctctttccc gctagttgtg cctgagagtt gctgttggtc 360
ctgctttccc ttccttccct ttcattcccct gaagggttag gtgtgggttt tccgtgcccg 420
gtatccccac acaccagca cggacaaccc ttcggcagag cccaggccgg cccctcacc 480
cctggagtat tgaactgga gtccgtccc caaggccttc agagatgcc ctacacacc 540
agggtccag ctctgttctt tctgggggag taaagtgcaa agaggggcac agcttagttt 600
tgggcctctc gccagcaag agacagcact gctggctaca gctccaacac agccagctgt 660
ggcaagagga ctctgcctgg gctggcccc ctctgtgtg aggtgtctgt cccttctctg 720
ctggccagca gcagatgcac tggcagctcc caaccctgtt tccgcccctc ggccctccc 780
cagcctgttc ggcttctctg cagcccga gggggagcag acttttgaca aaggactgcg 840
ggcctgctc aagtccctga gccccagct gaagctggga ggggaggcca ggctttgtgt 900
ctgggcatat tcgtctgtg atggggtttg gggaagcctg gggcttgggg tttggtcggg 960
tggtgcagct agtggcagag cgggatcaga ggtgggtggc gccagcttc tgggctgaga 1020
caagggtctg tgcaggggtt tactgaagtg ggagtgcctt tggaatctgg gccgggagca 1080
gaaggagca aaagctacag tgggagccag cctagggcac atgggaggcg tgagggcagt 1140
gctgcccgtg cagtgtcagg tgtgccagt ccttggcggg ctgcagtgcg tgtgagggca 1200
ccttctaggt gggccaggga tgcagctatg gagataaggc gggctgggga cagaaacagg 1260
tgggcacagg gccaggaca ccagcggatg gagggcaggg tctagcccgt tgctcctgag 1320
cgctggctgc ctgggttcga ggcggtgggt ccccgcccc ttgtgatggt gtgtaccatg 1380
ggggagctcg gggacagggc aagcccagc atggtggggc tgcagggtgg gtctgaagcc 1440
aggttgggtg ggggtggtca caagccctga ctgcagaggg tcaggggctc ctgcccagt 1500
gctgcccac ttcaattca cattgttttc aacaaggatt ttctttatct tcccataca 1560
atcaagcaa gggaggggca cagaatggg aacaggacac aggatcctaa actccaagg 1620
gactgtccac cgatgaacac tcagagtga caccatcttc cgtccacgt gtgccagga 1680
cagctgtccc catccatgaa cacagggtaa acatctgcc ggctccgcac cagtggctcc 1740
ctgggccatg ggacagcggc agggctcacc acggacagca cgtggcccag cagccggcca 1800
ccctggcgtc ctggggcctc ctcccctct ctccctctca ccttgcacc tccacggagc 1860
tgcctgtctg ggataatttg gggatttttt ttctggggga taattctttt gcatgacccc 1920
taaagagcaa gccacaccgg tctgctagct aggtgtccgc ggtgtggtgg tggcgccgc 1980
tggccagcgc tgcaaggggt cggctgccc cgggtgtggc tggcctccc tcctctctct 2040
ttttgtgag ttctattgtc ttttcttct gagccttgta agtgtacaaa aattattctt 2100
atattgttct gtctcgggaa actgcaaata aaagaaaaac aggacaaaaa 2150

<210> 86

<211> 1732

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21385

<400> 86

aaaacactta ctgtatgta ttgagtcatt ttgatattca cttaccctga gagtaagtt 60
ctgtttatct atgtggaacc tgaggcttag agaacttag taactgccc aaggtccac 120
agtttagtgac agagctagta ttcaaatgtg gagcagctg attccaagca tcgcacctt 180

aacctttaat ttcaacatca gccttattat gcactacttt tcatatactg ggttccagct 240
 aaactgcact ttcctttcgt atgctgttgc attgccattc ctcctctcca cactgcccct 300
 tctcttcatt tgtttgttga atgctataag aatcttcaga ttgatcatca ttgcttgctg 360
 aaaagtcgaa ataatagact ttgctgatac tcagtaaaag aagaatgtgc taaaattaac 420
 aggagacaca attacctaca aatttacta gtttaggagc ttgataagc atggttcacg 480
 ttgtaagaac atgcttctta acaagagcca aaatgttctc ttctccattt gctgattctg 540
 ccttctctta gtttccatcg ctattgttct gggcttcaca tgggcttga aattcacct 600
 atcctgtatt gcagtcactt gcaggcatct cttcttctt gtttagattgt aagctctttc 660
 aagacaatca ctttttaaaa aatcctttt tattttctca aaacagtaga ttcttgtata 720
 gtaggttgct aatgtttgtt aaaggatggt ttatttattc cactctgtaa gatttgagtg 780
 aatttttcat gaaagccaaa cagatctttg ttttgacaga gagtatcttg tttctgaaga 840
 tgccaagaaa caaatttgat cctaagagtg gtcctttacg ataagtgatg tatataagat 900
 gacttttttt ttttgagac agtttctcac tctgtcacct aggctggagt gcagtgggtg 960
 catcagttcg ctgcagcctc gacttcccag gcccaaatga tcctcctacc ttagcctccc 1020
 gggttaagctc ggataacagg tgtgcaccac cgtgccttgt tttgttttgt tttgtttttt 1080
 gtggaaatgg ggtctcccct tggctctgaa ttcttgggct caagcgatct tcccgccttg 1140
 cctcccaaag ggctgggatt acagggttga gccattatac ctggccacaa tgtgacattt 1200
 taaaattctt atacataatt agctttttat gtgttccaaa ttaaaaaata accatgattc 1260
 taataattaa gaagtgggaa gttttgttct tgtggggaaa gtagaagtta ttattgtaga 1320
 acctagaag tgatatttcc tggcttaata cctgtatctg attcacttcc acataaatga 1380
 agttcaactc ttttgcccag gagttttgca tcccttgctt tggctgagaa gaggataaaa 1440
 cctagaaaaga agtctaagca agaccgggtg tgggtggctca ctcctgtaac ccagcactt 1500
 tgggaggcca aggtgagagg atggcttgag tccaggagtt caagaacagc ctgagcagca 1560
 tggcaaaacc ccatctctac acaaaatata aaaattagct ggacgtcgtg gtgcacacct 1620
 gtagtcccag ctactcgga gactgaggtg gatcactcaa gcctagggaa gtggaactgt 1680
 gattacacca ctgcactcca tcctgggcaa cagagtgaga ccctgtcaaa aa 1732

<210> 87

<211> 2482

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21416-1

<400> 87

gttccggtc cgtcgctcc ttctgttct tccgtctcc tcggcggtc ccctccccg 60
 cccggctctc cgcgccctt ctggcggtc gggcggtc gccgtggcg tgcggccctc 120
 cttcggttcg tgcgtgccc cgtggcccg cgacgtccc gcgacccga ggccgagcg 180
 ggcagggggc tgaccgccat gacccccag agccggcgt gagggggccg agatcggtg 240
 acctgccagc acctgccga gccttctcc gggagtccc ccatctctc acgcatcggg 300
 gccctgtgcc ccttctgct gcagccggc accatgtcga cctcgtcctt gaggcgccg 360
 atgaagaaca tcgtccacaa ctactcagag gcggagatca aggttcgaga ggccacgagc 420
 aatgaccctt ggggcccatc cagctccctc atgtcagaga ttgccgacct cacctacaac 480
 gttgtcgcct tctcgagat catgagcatg atctggaagc ggctcaatga ccatggcaag 540

```

aactggcgtc acgtttacaa ggccatgacg ctgatggagt acctcatcaa gaccggctcg 600
gagcgcgtgt cgcagcagtg caaggagaac atgtacgccg tgcagacgct gaaggacttc 660
cagtacgtgg accgcgacgg caaggaccag ggcgtgaacg tgcgtgagaa agctaagcag 720
ctggtggccc tgctgcgcga cgaggaccgg ctgcgggaag agcgggcgca cgcgctcaag 780
accaaggaaa agctggcaca gaccgccacg gcctcatcag cagctgtggg ctcaggcccc 840
cctcccaggg cggagcaggc gtggccgcag agcagcgggg aggaggagct gcagctccag 900
ctggccctgg ccatgagcaa ggaggaggcc gaccagcccc cgtcctgcgg ccccgaggac 960
gacgcccagc tccagctggc ccttagtttg agccgagaag agcatgataa ggaggagcgg 1020
atccgtcgcg gggatgacct gcggtcgag atggcaatcg aggagagcaa gagggagact 1080
gggggcaagg aggagtcgtc cctcatggac cttgtgacg tcttcacggc cccagctcct 1140
gccccgacca cagacccttg ggggggcccc gcacctatgg ctgctgccgt cccacaggct 1200
gccccacct cggacccttg ggggggcccc cctgtccctc cagctgtga tccctgggga 1260
ggtccagccc ccacgccggc ctctggggac ccctggaggc ctgctgccc tgcaggacc 1320
tcagttgacc cttgggggtg gacccagcc cctgcagctg gggaggggcc cacgcctgat 1380
ccatggggaa gttccgatgg tggggtcccg gtcagtgggc cctcagcctc cgatcccttg 1440
acaccggccc cggccttctc agatcccttg ggagggtcac ctgccaagcc cagcaccaat 1500
ggcacaacag ccgggggatt cgacacggag cccgacgagt tctctgactt tgaccgactc 1560
cgcacggcac tgccgacctc cgggagcagc gcaggagagc tggagctgct ggcaggagag 1620
gtgccggccc gaagcccttg ggcgtttgac atgagtgggg tcaggggatc tctggctgag 1680
gctgtgggca gccccccacc tgcagccaca ccaactccca cgccccccac ccggaagacg 1740
ccggagtcac tcctggggcc caatgcagcc ctctcgacc tggactcgct ggtgagccgg 1800
ccgggcccc cgcgccttg agccaaggcc tccaaccct tctgccagg cggaggcccc 1860
gccactggcc cttccgtcac caacccttc cagcccgcg cctcccgac gctaccctg 1920
aaccagctcc gtctcagtc tgtgcctccc gtccctggag cgccaccac gtacatctct 1980
ccccttggcg ggggcccttg cctgcccccc atgatgccc cgggcccccc ggccccaac 2040
actaatccct tcctctata atccaggcg gaagggggcc tggtccatc cggctgcccc 2100
attccggctc cctgggagat cagtgttgtg agtgcattgt aatggggga tccccacccc 2160
cagtgcctt ccccttctg gggccactc aactacacc ctcttcctt cccacccac 2220
ctccccggag agaaactgga catggggcct ggggagggga gctggccaga ggaggacccc 2280
tttccgttg cattagaagg gggaggggtg gctggggccc ccaccattc cccctccctc 2340
caaaactcca acccccagtc agtgtttgag cctcctcgtt cccctcacgc acccgctcac 2400
gcaccctcgg tgaatccttg gtgatgattt tggcaacttt gggaataaat ggcaattccc 2460
acgggcttgg cactcccaaa aa 2482

```

<210> 88

<211> 1343

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21599

<400> 88

```

gtaaaaagca agcatagaga ctagagagtt gggagatgta aggaaagata ggtataatca 60
cagctaagtc atgatgaggt aactggtgac ttttttgaca tagtaggtac ttagtaagta 120

```

```

tttgattgtt aaacagaaaa tgggatatct tgaagtttgt agttgtagtc ttaggtctgt 180
ctctctatatt ctaactctta ctgtattatg atacccaaaa cagggaacca tatcacattt 240
ctttgatttt aacttgacac gtttttaaat taacagactt tatttttaga acaatttttag 300
atttatagaa taattgagca gatactacag agaatttcca tatacctcat ataccaccct 360
cattccaact caatctcccc attcatgggt ttctctgata ttaacatgca ttagtggtgt 420
aagtttgtaa cagttaataga acgaaaattg atacattgtt gtttaactaat gttcataaca 480
taataagggt cactatttgt gttgaacaat tctatgtatt ttgacaaatg cgtaatgtca 540
tgtatctacc attacagtat catgtggaat agtttcactg accgaaaaac caatatgtgt 600
cacctgttta tccatacccc tgtcagccac tgatctgttt cctgtctctg tagtttttgc 660
tttttccaaa atgtcatata tatagccatg tgttgcataa cgatgttaca ctcatgaca 720
attgtatata tgatgggtgt cccaaaagat tataatggag ctgaaatact cctatagatt 780
agggatgtaa tagctgtcat aacatcatag catcttatag attagagatg ttatagctgt 840
cataacatca tagcatctta tagattaggg atgttatagc tgtcataaca tcatagcatc 900
ttatagatta gggatgttat agctgtcata acatcatagc atcttagtgc aatacattat 960
tcacatgttt gtagtaatac tagtataaac taacctattg tgctaccagt tgtctaaaag 1020
tatagcacat ataattgtgt acagtacata atatttgata atgataacaa atgactgtta 1080
ctgtcatata ttatttagaa tacacatttt attatttttag agtttattcc ttctacttat 1140
ttaagaaaaa cagcctcagg caggtccttc aggaaatatt ccagaaggca ttgttatcat 1200
aggagatgat cactcagtgt gtgttactgt ccttgaagac ctcttagtgg gacaagatct 1260
agagggtgaa gacagtgaga ttgatgatcc tgatcctgtg taggcctagg ctaatgtgtg 1320
tgactgtgtc ttagttttta aaa 1343

```

<210> 89

<211> 1484

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21681

<400> 89

```

taggagcaat gactgttggg caggatggca gcagatgaaa gctcacagaa cactttgcgg 60
ctccagttca aggcaatgca ggagatgcag cacaaatggt tacagaagca gatggagaaa 120
aagagggaaa aagaactgag cctcaaaagc agagctgacg accaagagga gcccttgag 180
gtttcagatg gcctcagcct tctccacgca ggggagccaa actcgaataa tagctttgag 240
aagagggtgc ttgaagatga gattgaacac cttcgaaatg agctcaggga aacggtggac 300
gagaacgggc gattgtataa gctgctgaag gaaagggact ttgaaatcaa acacctcaaa 360
aagaaaatga ataggttact tgtgtattaa aggacccttt caaaggaaaa tgctcagact 420
tgggacacag gccagctgg ttcgttattt atttttattt acatagcgaa ttctctggca 480
tttgcttcc ctgctggaac cactcagact ggccaagatt tccaaaacag ttttctattg 540
tggaacaag tgccagagac ttggtacgct ggatcgggtt tctgtgacag gcttcagagg 600
ggcccaggtc acaagctgga gcgtattgtt tctgcctcaa agccttgagg ttgggcctga 660
gtgctgcact tcaacaaccg caaagctggg tccttcttgg accacagcac cccaactgac 720
attcagtagc ccacctttg ctgcactcag aggtccactt gtccgtgggt ttacacaaag 780
gctagggtcc tgtggtgatg tacttcctat agccagaatt agctcagcac taggtgacag 840

```

gtgagtgggt taaggaagca ggagttggtc agctttgtgg ttcagtcac ccagaatatg 900
ccaagccacc gagggcccag atgggagaca gagcattgct ggagacccca gaggtgaagg 960
ccctgaccag gctgtcagcc aagggggcca ccgacgcagg agccaagcca ccgagggcca 1020
gggacctgga ggggtcgggc tcaacaaatt cttgttttgc agagcaaggt gagtgagtca 1080
tcagacttct cctggcctga acaaaggatt taaaacaccc cagaaagagc tgccctgacc 1140
cccttagaga cctaagcaca cagtacccaa aaaaggcctt taggtctcac agtgactcgc 1200
tgcggggttg ttgttttacc ttctcgccaa ccagcctgat ttttaattgt tatttaatga 1260
acaagctctt atataacact tagcacatgc caggcactgg agcttaacaa atgccaacgc 1320
ctttggtttg atttatitita ctccaggcat cttttttttt tcttagttta tgtagatttg 1380
cgtgactgtt gtaattgtaa gctttttcca gttttgtcca gatgcttgta gtcttttgaa 1440
agttaatta cccaataaaa atttagcctt gtctccctca aaaa 1484

<210> 90

<211> 1479

<212> DNA

<213> Homo sapiens

<220>

<223> nb1a21878

<400> 90

taatcattgc agttaagaga aatggaaatt agttgtgta atcttgcaga atgtttgcag 60
gactgactat caaactggat gatttccatt tataccctac tgtgtcagtt caagcatcaa 120
aataccttgc atctgagaca gacttccctac atcagggaca ggtatctgtg tgtcattata 180
caaaacagtt ctaggggggt gaactacata gtaaaaaaat aaaataaata gtacttagtg 240
taaaataatt ttataaatga tcttttgtac tttaggacat taaattgtac aacttttgta 300
tatataaaag cttaggaact ttctgttttag caggaaggca acacattcct acacttttaa 360
tgtatatgtt tgttataatg tccatgtaaa catgccctat gtttgtgcct ttttaattagt 420
ttgtctcaat aaacaaaatg tagagaaaaa tatgtagcta tgactttgtt acaactgttc 480
ttatccacag tacaaaaatg gtttgttttt aatatgtaga gcattatgtg tggactactg 540
gaaggactcg tgtggggaga gccaagaat gacctgtctg aggcctggat tgggaggcac 600
agtggccaca tttggaggaa gttcacattt cctggcatgc agacccaaaa ctgggttctg 660
gctctgcctg ctgggatctg ttatctcttg tgggctggca gtcataattc acaattcaga 720
cagcccaggc ttctccaca gtgtccaag gagcagtcct cagtgggggc aggtgtgggc 780
cctacccta agctagaatg tggttgtcag aacctgaaa gtattagttc taaaaaaaaa 840
aaagatatat actagaagta attgttttat caattcattg tataataaac aggagtga 900
cttcattgta tgacttcagt taaaatacta tttgtatgc attctttatt cacttaagaa 960
gctgtctgc aataataaag ccacgtcatg tcttctttt ggaggagag agtcgatggc 1020
aggaggggggt tttgggtggg ccaactgaaa ggggtaccga ataggttgat tgatgaaatt 1080
ctgtgtcttg gaactggaat tgagtctcga tgttgatgaa ctgattcaac cagggtgtga 1140
aggcacgaca gccactgctc tacgaaaagg cagagtacgt tttcccttc tggttgtaac 1200
ctggttgaga gcttccctt tatcagattg gcagctaaac agttgtatta gataatcctt 1260
aaatctgaca tccagcctgt tacgctctag ggctcgtgc ttggcctgcg tttgcttttt 1320
attgtgtatc cgttcccctc ctacgggtgtg ctctgaatg aaggtttcta tgtaagcaga 1380
tgatgatttt acctgtcaat accagcactg tattactaac atgcaaaaata ctgcagattt 1440

attttgaaaa ttaaagttaa ctggtcacaa atgtaaaaa

1479

<210> 91

<211> 1907

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21922

<400> 91

aagctggatt aattgacaag tgattttttt tccccctctgc ttcttagaaa ctcaccaagc 60
agtgctccta aagcaagggtg gtttagtttt ttacaaagaa ttggacatga tgtattgaag 120
agacttgtaa atgtaataat tagcactttt gaaaaaaciaaaaacctcct ttagcctttt 180
cagatatgta tttaaattga agtcatagga catttttatt ttatggaata gattttaatc 240
tatttactac tattaaggta gattttctat ggcatgtcca ttagctatct catgatagat 300
gattaggggt ttctcaaaa cctgtgtgtg aggaaattgc acacagtagc aaaatttggg 360
gaaatccata acattttcag accatgaatg aatgtttcca tttttttct aatggaatgt 420
gagagtttat tttattttta ttctgaagga ctttaaggaa gggatacatg attttaaaaa 480
agcctgtaag aggtgaaata tgtgatgttt gaagtctctt tatagacttt ttatatatat 540
tttttaaaaa cactcatcta gatgagggtc tttagcagt tctgaaaaat gcagttccag 600
gaaagcaact gctttgggtc ctaaggaaga aattctaaat aatgcaaact tttaaaataa 660
gcatctaggt ttttgataat tctgtctact tacaacaaac ttgttagtac ataaccacta 720
ttttaataat tttttctct acacaaatgt gtaatatcat atttgacttt gcttatgcag 780
gccataagtt ccaaaagata atttcctgc ccacaaaggc ataaacttga aaacacatga 840
gattgaatca acatgcttta ataggaaaag atgtatggtc tatatatgta tcaatctggg 900
gaatcctcgt tctaataaag gttctttttc tttctatga tacacacagc cagctgata 960
atatgcaaat gaacattttc ctttatgtct ctccagataa tgtttattgt ctgaggtaaa 1020
ttaaatccc accagggttt gctgtcagta ttttaacacc cacattagta tatgcgtcca 1080
gggtcataac cccctaaaat ccatcatgca accttattaa tctgtcttgg gattccagtt 1140
tagtgcttgg atttatttcc tgattacact acatagaaaa gtgagacatc tgccattccc 1200
aactctggga aaaccaacta atatacaacc atataaatga aggccatctt gatgggtctca 1260
acactaattt ttatgatgca aattatata ctgatttttg taaaggacaa agttttaaaa 1320
gcgtatttaa cttgatgttt tctatcagca taaataaaat ggtcatgaat agtcattaaa 1380
aacagttgcc agtgataatc tgcatgaagg aaaaagaacc ctgcaaatgg ctattgagtt 1440
ggaagtattg ttttgatat gtaagagata ttcagaatgc tcacactgaa aatgcctcaa 1500
ctttttaaag tgtaagaaac caccatgagt ggtgtctaga tttctaataga agaactatga 1560
tacagtttgg attaatgata ttggactggg ttttaacagt gctttgtacc ggatctgctg 1620
aagcatctgt ccagctggta tcctgtgaaa gtttgttatt ttctgagtag acattcttat 1680
agagtattgt ctttaaaaatc agattgtctc ttctatatgt aaagcatttt tatgttttct 1740
aatttaaaaa ttaatatatt cttatagata ttgtgcaata aagctgaagt agaattgtgtg 1800
gtttttgcaa atgctttaac agctgataaa aattttacat ttgtaaaatt aatatattgt 1860
actggtacaa aatagtttta aattatattt taaaaagctt ccaaaaaa 1907

<210> 92
<211> 1402
<212> DNA
<213> Homo sapiens

<220>
<223> nbla22004-2

<400> 92
aacatggcga tgcacaacaa gacggacacc cggcgggagc tggcggagct cgtgaagcgg 60
aagcaggagc tggcggaaac attggcaaatt ttggagcgac agatctatgc ttttgaggga 120
agctacctgg aagacactca gatgtatggc aatattattc gtggctggga tcggtatctg 180
accaacaaaa aaaactccaa tagcaaaaaat gatcgaagga accggaagtt taaggaagct 240
gagcggctct tcagtaaata ctcggttacc tcagcagctg cagtaagtgc attggcagga 300
gttcaggacc agctcattga aaagaggag caggaagtg ggacggaaag tgacacttct 360
ccagacttcc acaatcagga aaatgagccc agccaggagg accctgagga tctggatgga 420
tctgtgcagg gagtgaacc tcagaaggct gcttcttcta ctctcagg gagtcaccac 480
agcagccata aaaagcgaaa gaataaaaac cggcacagcc cgtctggcat gtttgattat 540
gactttgaga ttgatctgaa gttaaacaaa aaaccacgag ctgactatta gaagacacat 600
tagtgcagaa gcttcaggc ttagagccc tgcttccctt ctctgacctc acaaagataa 660
acatccttca cctgagttcg tggccatcca cctctgctct cccagaccca gtgcctgtga 720
ctttgagtag tttgttctaa atgtggtgac aaacaagtca tttctgtaag acattgggtc 780
ttactttatg tcattttttag taacagaact gcaggaagat caagacaatg ttgtaatccc 840
ggcaagttgc taactgtgcg tttctccctt cttagaatga atgtctcccc caaaactggc 900
tggcaccagc ttcactgttg atacccttca agaaatgttc tctggttttg ttttatgctg 960
aaagtagaac acaagtcaca tttcagatgg aggctgtaaa tatctggcat tttcttatat 1020
tgttttatgt tttctgtttt ttctcttggt gtttttatct tattttcttt ggggtttttt 1080
tgtaatgcct ttgtacagct catactttcc tgctgacata tctgatcatc tctttcatgc 1140
agttgccaat attcataact gaaaataatc tggtttatca taagtaaaat gggaaacttg 1200
cctctgtttt ttgcaagggg aggtaaagag tgtttagtaa ttacctatct taaatctttc 1260
tgagttggta gtagattcat gttcaaggaa caggaaaaat ggaaaaacat aagtttaaat 1320
cagttctttt taaataactt tttattcttt tgtataaata aaatttcaca ggcttcaaat 1380
tctcatgctt tactttttaa aa 1402

<210> 93
<211> 1577
<212> DNA
<213> Homo sapiens

<220>
<223> nbla22004-1

<400> 93
gaagttggca ttaaacatca agagatacca ttattcaac atatctatca gaagggcacg 60

tccaccatca gcacaatgag atctcatact caagaggatc cttttctatg caatgactta 120
 ggagaagatt tcaactcaaca tatagcattg actcaaaatg tgattaccta catgagaacg 180
 aaacactttg taagcaaaaa gtttgggaaa atcttcagtg actggttate ctttaataca 240
 cacaaggaaa ttcacaccaa atgtaaataca tatggaagtc atctatttga ttatgccttt 300
 atccaaaact ctgcccttag accacacagt gtgactcaca ctagagagat aacattggaa 360
 tgtcgtgtgt gtgggaaaac ctttagcaaa aattctaate ttaggcgaca tgagatgatt 420
 cacactggag agaaaccaca cggatgtcat ctatgtggga aagcctttac tcattgtctt 480
 gatcttcgaa aacatgagag aactcacact ggagagaagc catatggatg tcatctatgt 540
 gggaaagcct tcagtaaaag ttctaacctt agacgacatg agatgattca cactagagaa 600
 aaagcacaga tatgccatct atgtgggaaa gccttcactc attgtcttga ccttagaaaa 660
 catgagagaa ctcaacttag agataaacca tatggatgtc tcctatgtgg gaaggctttc 720
 agtaaatgtt cttaccttag acaaatgaa agaactcaca atggagagaa accatatgaa 780
 tgtcatctat gtggaaaagc cttctctcat tgttctcacc ttagacaaca tgagcgaagt 840
 cacaatggag agaaaccaca tggatgtcat ctatgtggga aagcattcac tgaatcttct 900
 gtgcttaaac gacatgagag aattcacact ggagagaaac catatgagtg ccatgtatgt 960
 gggaaagcct tcaactgaate ttctgacctc agacgacatg agagaactca cactggagaa 1020
 aaaccatag aatgccatct atgcggaaaa gccttcaatc actcttctgt ccttagacga 1080
 catgagagaa ctcaacttgg agagaaacca tatgaatgca atatatgtgg taaagccttc 1140
 aatagaagtt acaactttag acttcataga agagttcaca ctggagagaa accatatgta 1200
 tgcctctat gtgggaaaagc ctttagtaaa ttttttaacc ttagacaaca tgagagaact 1260
 cacactaaaa aagcaatgaa tatgtaagaa tcatcagctg tagcgtaac actaaataca 1320
 ccaaggacaa acatactaca ggaatattat gtctgtaatc agtgtggaaa agcctttatt 1380
 tatatttacc actttgctca acctaaatga attcaaggta gagagaatcc agatgtattt 1440
 aatgtttatg gcacaaactt cagactctag gctgaccata tacaacgtga gagaatgaaa 1500
 ctatagatca aaggaatgtg gaggagtctt catccacagc tctgttaaat aaatgggaga 1560
 aatcacatca cgaaaaaa 1577

<210> 94

<211> 1945

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22085

<400> 94

gtaaattatg caggtgataa catggtttgg aactgtttat tgggctcttt aactgaattt 60
 tcaaatgaaa tgaactatgc ttattgctgg cacattgatc ccatttctgg aacatttttc 120
 ctatttccag agttacatat gttcttttgt cattacccaa ttaacctcc ctttctctga 180
 tatgccttgt agccaaagta ttaaaggctg atgaacatag acaagggaaa tgcatttctt 240
 agaaatccgt gaacctcag ttgtatgctt tcagtactcg tgtaaatatg tttctatggc 300
 aactctgagg tcagtgggtt agaaatgaga taccagtgtt aatgaaaagt gtgtgctctt 360
 tgcttttgca tggcttggct tagtatccaa ggtatattag ggccacttga aagcatgaag 420
 accagttata tagggaacag gtttctctca gtggcacatt ttgcttttgc tgagccccaa 480
 atacattgcc tgggcatgaa cattgttacc gtaaattgca catggatcatg gactgaatta 540

tgtgacttta aaggatgtaa ctgccaaca ttgacagatt ctgggtggc tatgtgacca 600
 ttgtctcgt atccaaaaac cccggggcta ttggaaccct tccaacactt tttcctttgt 660
 catagacaag ttatatata acttaccaag atgttggctg tcctgggtga ttgccagaca 720
 gctgtctttt ggttcccatt ccaaatgtgc tgctgtcctt ctttgcaatt cacaatatca 780
 aagaaaccac cacccttctt cctaacagca ttttatgcct tttattccac attaaatggg 840
 aattgtgcct acttaggagt gccctccaa ttaattacat gtgtccaaga ataatccaag 900
 ctagagacac aagggtggaa aacatttcaa aaaaaaagt cctcttaagg ccagtaattt 960
 atctgaaaag gtattttatc acacctgac accttatata tgagcctatt aggagctgca 1020
 ggtggtttca tagggtaaaa tccaagaaaa gagaaggatg tgtgggggtt ctattagaag 1080
 ataattttgt tctcatttta ccttttcttt tatgatcctt ctctgctaga acaggttaat 1140
 tctccaaatt tgttttgtt tgttttgta ttttttaggg aactctttt caaaagcaat 1200
 ggtcggatgt aaataacatt taaagtatag tgcacataac ttccccggac tgttccaatc 1260

tgataatttg taaatgcttt agagtttttt taattaacac ttgtgttgct aaattctatt 1320
 tatgtaatgc tgctaaagt tttagccca cttaaaactt aagacaacca tttaaaataa 1380
 tggatgggtt actatgagca atttcgcttt cagaaccccc ttgttttagt atatgaaaaa 1440
 gcctaatagc cattaatgag gttgaagaga ctatgagaaa tatgtatagt gtatatatta 1500
 aaacagcttt gcttgattg tgaagattta aaaacaaact tgagattttt aacgtaacta 1560
 ttaacacagt ttaacataa gttatccac tgggtttaag agcatctga atgtataatc 1620
 ctttttgtaa ccaggttgg tttctacttt taccagtac ccaacatat ttatgttttt 1680
 agttttatgt actcatttcc ctttgtttc ctcaaacagc atgatttttt tgcacatgta 1740
 gaaatttttt aaaagaaaga aattagtaca tcattttctc tggattttct tcacttccct 1800
 cttcctttct actaacctt tccttaaagg ccatactact ccatttgcat tatttggtgca 1860
 aatgccaggg ttggttttta tttttatttt tgctattttac ctaaaaaaag aaaatgcttc 1920
 agtcaattgc tttttatttt aaaaa 1945

<210> 95

<211> 1551

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22119

<400> 95

ttttgcacga gtaaaatgat ttttttaaaa ccaataaatc atcaattatt agaaatagtt 60
 gtctcacagt gatactggtt tttcttttgt gctgttatga tttacattg acaggaacac 120
 tatttttaaat ccttacgttc aggtgtttgt aacttggcct tataattagg ctgaattatg 180
 gcttcaaggt ctacaattta tgtgtatggt tcacagccta gcttctattt acatttgaaa 240
 atacagattt ttaccaactt tggattcttt ttaggttata tgtttgtctt tcctttttta 300
 attgttcaaa actatttttt aatgggtcaag ttactaacac ttgaaaatca gatactgcac 360
 caaatacagt gtttttccgt agtgttttta atgagtgcac ctattactac tgtgcgagaa 420
 ttcatgtttt accagtcatt gttatattac aaacagactt gcatgattaa ccagttgtta 480

cacttacttt ttcaagttgg agtatatatg actcagtgc gactggtctc tcttatgtga 540

atgcacacat gcagaaatgc agagtcaatt ttacatgccc ataaagacat ttgtaaagaa 600
 ttcagctctt atgggtctgt gtataaatgt gtatctaggc actttggaat ttgacctcac 660
 agatgttaca acttgatcag tctgttgacc taatttgtgg tagctatctg tatgttttgc 720
 aatcttaata cagacatgct ttccaaaaag attaatacag aacctcctg ccgttttggg 780
 taagtctatc cagctgtgga aagggaacc tgtggtttct ctgtactggt gtttaatggg 840
 ggaagaatat gaacagcttt aaagagctgt gtattgtggt tactactatt aaaaaataag 900
 atctgcacga gtctgactgg cctttgggtg gcctttgtgg acggctcgta gctggaaagt 960
 gttgatctgg gttttctggc attcttttaa gttaaaaagt taacatcggg acatgggttt 1020
 gatcttttgt tgtacctgat gacagtgcag agattctcca cagctggata aaaatgtcac 1080
 aaagctactt actgtacatg ggcagtatca gatttcaa cctaataatt cagctgtgct 1140
 ttttaacttc aaaatattag gggatggggg gttgaagctt tccctttttt gcttttaaca 1200
 atttatagaa tttacagat gtactgtctt tcatgtggcc tcacatttaa agttatgaga 1260
 acatacacat gggtttacaac ttttactata tacctttcct tggccaccaa gtattttaaa 1320
 agtgtgccac cttttaacct ttactttttt taagttgaag gtgatacttt ttctatata 1380
 gatgaaactc atgtcaactg aagtgaagt aatctcagat accaacatta ttatatatta 1440
 aaatcacgct atggaaatat cacctgaatt ctgtcatttg tcagatttac agtacctttt 1500
 tttctttaac ttttagcatt aaataaaaat aaaattggga gcactgaaaa a 1551

<210> 96

<211> 2151

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22149

<400> 96

aaaaaaaaaa aaaaaaagaa gaagaaatct cagcaggctg agatggaact cattcttctc 60
 atgaagaacg tggcaagcat tatacagagg ggccatagtc tggaaagcag gagatgctta 120
 cagacatata agttgtttcc agtgttttgc tcttggtact catggttcca ctatttacat 180
 caaccttttg agaaacatat ttatacactg tcttatactt ccctcctttg ctacagaatg 240
 aatctacttg taacctacca aaaatttacc ctgtcacatt tccccagctg ctggtttaaa 300
 aataaatatc ctggatttaa agccaattgt gtctaacagg tgccaccatc caagtgagga 360
 tttcactgtt cacaggcatt tgagacacac cagcggccgg cggttctcac tgctcttcat 420
 atggaggcaa ccatatatgg gtaagtcatt tagtctctta ggtaggcgaa ctgaggccaa 480
 tctccccact tttagggtctg tgaaactgtt ctgtatgata caataatggt ggatatgcgt 540
 cactatacat tcgtccaaat ccacagaatg tacaacacca agagtgaacc ctactgtaaa 600
 ctatggactc tgagtgacaa tgatgcatca aataggttca tcagttgtaa taaatgcact 660
 gctctgggtgc agaagtgtga tgatggagga gacaggggta catgggaatc tccgtacctt 720
 ccattcaatt ttgctaaaac tactctaaaa aataaaaatta aagaaaaaaa aaaagctccc 780
 ctctttcccc agttttacga tttatttatg ctttgtgaaa tggagtctca ctcttgactc 840
 ccaggctgga gtgcagtgat ctgagctcaa tgcaacctcc acctccggg ttcaagagat 900
 tctcctgctt cagcctctg agaggctggg attacaggc catggcacca tgcccggtta 960
 atttttgtat ttttagtaga gatgggggtt cactatgttg gccaggccag tctcgagctc 1020
 ctgaactcaa gtgatctacc gtacccggcc cccaatgtta gtttttaaat aaacgactat 1080

gtttaattca catgctaaca ggcacctaga gaatactttc aagtaaaaag attaataaac 1140
 ccacttcgca ttgagtttagc tggttgtttt ctgccaacca ggtgtccctg cctgggtccac 1200
 agttgaccaa ggatccctgc atctgcctct agcaacaccc aacactgtat gaagggctga 1260
 gggggctctga cagttcacgt cactgacatc ctctcactgg tatttcgaat gccaagccag 1320
 ccctcaaadc aagttcactg gcctcgactg agctgccaag tatttcatac atggggaggg 1380
 ggggtggggg gggggagggt atggggatca cacagggtgcc aggcaatgag taagattatc 1440
 ccagcaactt ctccatgcag agagaaatgt ctgcagctgc aacactatct ctactccagc 1500
 cttctagact ccatgtagtt tgcctttgtt tgaatgtttc tatttatctg aaataaccag 1560
 aatcattttt tattattata tattactcca gtttattaaa taaatgaaac aaggcttatg 1620
 ccacatattc caacaatgtt taaataaaga gcttgaaata taaaggctta tgaaaacttc 1680
 atactcttta tataatgcat actatttcta gcacatgaat aaatataaag gacaggagcc 1740
 actttttata ttatgaatcc acaacattaa gcacatgaat ttacacaaat ccataagcac 1800
 acaaacaaaa aaaccattg gttataaaaa ctagaattcc ttttggcata ttttaagaaa 1860
 cccaaagggtg gggagggtact tatagccaga accctgacaa cgaggggacc aagtctccca 1920
 attccttaag ttgtttcttg gttagaagct tcaacaattg cattaactct ttcaaaaaaa 1980
 cagaaaaagc aggttaagat cctgttcaat aaggcactta ataagtctac actgaagaaa 2040
 tactatgctt ttatcttaaa tctgtcttaa gttttaccat gaggtttgaa tttctttcca 2100
 ccttggtagg aacatgtatg taatttgaat aaacttgtaa taatacaaaa a 2151

<210> 97

<211> 1790

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22161

<400> 97

gttgactacc cttcttaca caaaactgtt tcttttttat tgcaaatagg gctcttggtg 60
 ttttttactt tttgtacat atcacagtac atggtttttc actctttagt ttatttcatt 120
 ttattggaat taactttttt ttattctaact actgacagag tttgtaatct ctatataata 180
 cgtaattact ccaattacag cacttttacc ttgaagagca tctcagtttt tcccacaatt 240
 tcattgagtc atcagagact gatgttgctt cttggtttca aatttgggtc taaagaaact 300
 ttcggctgta gaaacaaaag cacagagtga attttttaca aaagacaggg aatatagaat 360
 agtcattaca gacacaaata accctagtag cacgaagttg gtgttttctc tgtttttact 420
 taagattaag aagatttttg gtgactctga actctttatt tatatttcag tttaaaatat 480
 caagactaag gggcatcagt tatctttact ctttaatat gcccataatt taataaatta 540
 cactaattaa acgcataatt tcagcatacc agtggaatta attttggga tcacacacat 600
 ttaaatagtc atatttggg aatattatag ctggttaacca gctgatattg attcttatta 660
 taggaatgac tgtaatgata gtggtggtag cagtagtgat attagcgtg gtggtgatgt 720
 gaagtaaaat aaaagtatat attatatgt gcccaattta ttagaaatta tttgatcaat 780
 gcttcatttc attaaaatat cataaagatg tttatagtat ttttttactt tattatttaa 840
 atcataacta acaatatttt taaaaactta ttttcattgc tacaatgtca aatattccaa 900
 aatcagccaa ctacagctat atatgtgtta tgtgtgacag aagtgatctt cttccctct 960
 ttttgagctt gacatgaaag tgaaagaaga ctcaatgaat aattatgagc tatttattta 1020

ataattactt gccttgggtg taatacagta atgaatgagt gaaacaaata ttctcattga 1080
 atatgataca atgctgtttt ctgtatgttt catgttctat tattaaaggt atccattagg 1140
 ccaaaattat ttaatcaaat tctttatctg ataggtagat tgagagcatt ttcttaatgc 1200
 attaccttgt acataagtat acacttggta aagtagacga agttgaaata ttaatttcat 1260
 ttggcattta gcatgtgaat atgattattg ttgtattgtg tctgtatatt tgtttgggtg 1320
 cgtgctcagg tgctccact actgattaat gtgtgtgcta atatcctaaa aacacatatg 1380
 aggtttaaga aaaaattttc ttgtctgaaa acataaacat cttataaaaa ctgattttga 1440
 aataaaaaact aaagtacttg aagatatgtc ttgtttctaa ctatatgttg catgccatgt 1500
 tgggtatttg ctaatgtgtt tttttgtttg ttgtttttac ccaaatccct ttggaaaatc 1560
 taatggacaa atgcaaattc ttggactaag gactgtataa attgacctga aaatacatga 1620
 gagttgcatt taaaaaaaaa tgcttgtaaa tccgtcttga gttttactct atgtaaaata 1680
 tgtcttgggt ttgtgattgt atacaagatg tatcttgata acttatgtaa actgtgccgt 1740
 ataaaggctg ttgcctcagc ctactaata aatactgaaa atatcaaaaa 1790

<210> 98

<211> 1955

<212> DNA

<213> Homo sapiens

<220>

<223> nb1a22252

<400> 98

aatgcaaccg gtgagagtgg ggaggctaag ctgtcgatta gtcccggcac gtggatgaga 60
 aagacaacga ggaggagca gctagagggg tggaaatggg atcacgtgac cttgcgagaa 120
 gcaggagagag agaacactgc gtctgctccc ttttagaaca gctcaatata gggaatccct 180
 aacagaggac ttccaggata tcctagggac agcagagcct caagatccag ggaggatcct 240
 ggatacctga gtcaccactt ggagggaat ctcttggaag aactgattga tcagcaacat 300
 ctacattcaa cttgagggtc ttcttgcttg gtgagcctgg tgggtggcca acagctctgg 360
 cattgtggga cccacaccag ccaggttagc ctcccatccg ctggacatca tgggagtact 420

gagcatcagt tcctccttag tcttgcaaca ggatggaacg gttcccaggg cgttggcact 480
 tccattggca gcagcagaag aacaaaaata ggacacacca aatggatcta attttgcctg 540
 aacctcggtc tgcaaggatc atgatttgc atctgggcac aagcttaggg aagctctggg 600
 aacagctcta ctcccagaaa gctgggtgaa aatcaactag acccagcagg gaagtctccg 660
 cgttgatcag tggggccttg ctgggtgcc ctccagtc ccacagggtg tccaaggagg 720
 ggctgaaca ccaggctctg gaaaacctga ggatgatgtt gctggagttg gtgccggggc 780
 tcgctctagg acaggcgtgg gtcctcctc tccactgggtg tgcctttggg aagggtatcc 840
 tccaccact gtgcacccac ccgacctgtg gcttgagca ggccctccct ggccagcagc 900
 tctgcttctg ctgagtgaag aggaaggagc acttggctct ccctccagga ggtgcatgaa 960
 gattaattag aaacttaca atccacagaa agtttgaaga agaaagtga aaaacttcct 1020
 acccccatca cctcaagata ttactgttg gtgtgttggg ggactcctga tggacacccc 1080
 agcttctcaa tacctgggag tgcaggcaca aaccttgacc actctgtaat gccactatca 1140
 tgctcagttg tcctgctgta gctgaaatca tttctgcagc aacctcttg aattaccttg 1200
 aagaagcagc ccagacagat cctctgaaca ttctctaaga atatagcggg gaatgtggtg 1260

tttccctgag ttctgtgagc tgctctagca gattaatcga accctagaag aggattgtgg 1320
 gaagccaagt ttacagccag cagaaaaatg aaaccatcaa tgccagcgac aggggtgctga 1380
 ccaggcggag gcagcacggg ggagcacaga ggctgggtgt ttacttagct tcttccctct 1440
 gtactctctc caccggccc ctcagcccac cgctcttctc ttcctggggc agttccctct 1500
 gctgagcggg ctggatggag attttccaag caggaagagg agtagagcct cggtagatta 1560
 agttcagctg tctccttcat tgtactggct cagggtggc cgggacctc tctgctaggg 1620
 gcttgagggtg gaggcaggac ggctcaggag gaccactga ggatcattct gcagtctctg 1680
 caggtgctgg tcaggttctc agcgctcagg ctgcaggtag ctgggcttcc acaagggggc 1740
 aggtgctctg cggggtgcac ccctggatca cccgtgccct ggcaataatt catgctcctg 1800
 agataccttt ccaatcggtg tcttcagcc ttcccttgct cccaggctcc gtgtgggcag 1860
 gagctgagtc ttcttcaact tgattctctc tgcatctagt ccagtgcttg gaacaacata 1920
 agcaggaaat aaatattgga tgaatgaatg aaaaa 1955

<210> 99

<211> 2059

<212> DNA

<213> Homo sapiens

<220>

<223> nb1a22347

<400> 99

gatttccagg catcttaatt cttcttttgc tgtgttttca aatgggttat tttgtgggtc 60
 tcaaatatat ttccttaaat atttggtgaa tccttgaggt tagaagagaa aggaatatta 120
 ccatcatttt attagtgtct gtcaattctg atgggggtaa aaattaaaga agctgatatg 180
 gtaaagacga agaaaaata aaaatatggg gagactgacc ctggctttca ttggcgtagt 240
 tcatttctgc ctttctttc tatagattta aataaagaca agtatttatt ttgactaaat 300
 cacagacata taaggcattt tcgggggtag attgcagagg tagtaaaata aactatagta 360
 tttcttggat ttgcttattt cttgtagcag tgtctatatt aatgcatctt gaattttatg 420
 cagtgttaatt actgttttagt gaaattttaa aaaggtttt taagagacat ggtcttactc 480
 tgtcactcaa gctgtttgtc agtggcacta tcatggctca ctactgcag ctggggactc 540
 ctgggctcaa gtgatcctcc cacctcagcc tcctgagtgg ctgggactgc aggcattgtc 600
 cacctcacct ggctaatttt aaaatttttg tagagatggg gtctcactgt gttgttcagg 660
 ctggtcttga actcctgtgc tcaagagatt ctcccacttt ggccctccaa agtgctggga 720
 ttacaggtgt gagccaccac gtccagcctt aatgaataat ttttttaaatt tgaaaagtca 780
 caaaacttat tacgaacaag gtaaaagggt tacagtttga cttagctctt tgctcaaaaa 840
 tactgataac ataataagta gggttaagcct cccagtgcc tcaaaatacc agataccgtg 900
 ttcatcattc tctcagacat gattgattaa agtaagatta tttcattttt ttatgatacc 960
 tgctgtgctc ttgaagaaga ctgtcttatt ttcacttact agtaaaagtg aaagaggaac 1020
 attgttttaa cattttaaaa ataaaaatta ttttttaatt attgttgatt tgaaataatc 1080
 agtttcttaa tatgttggtt caggtttcct gagatgcaag gaaataataa ttgtaccaga 1140
 atggggggaa aaggaggga gaaaaagggg aagagaggag aaaccagttg caatgaatta 1200
 tagtccctta catgttactt tctgagaaat aaatgggct tctgattcta aaaaatatac 1260
 tgtatctgca agagtaaaag tcgtaatctt tcccatattt cctataggca aattaagtta 1320
 ctttagtggc aaagtacatt taaaggccca tttatttctt caatcacatg atagtaaaag 1380

ttttgtcagg aggtctgctg aactgagaat acagaatcag tggcagtgac agaacatcta 1440
 aaaaattcca gtcaccatct cctttagaca tactggctct tgcattagtc ctaagccaa 1500
 cataaatgat ctttaatgta aaattgtaac aagtacataa agcaggctaa cgtagatatt 1560
 gcgtatctca aagcagttgg atttaaaata agtgatagtt aacgaaatcc aatactgtaa 1620
 tgaacttttg agaaaaaaat agttgattat gctttttaat tgtgtgtttg gggttttggc 1680
 ttttattatt actgttaatt tggccataag ctcatatgt taatcagttt taacagtgtt 1740

tctccatttg ctggataaga atttggctga ttggccgggt gcggtgttgc atgcctgtaa 1800
 tcccagcact ttgggagact gaggcgggtg gatcagttca gctcaggagt ttgagaccag 1860
 tctgggcagc atgatgagac cccatctcta caaaaaatag aaaaattagc cagtgtgttg 1920
 gcacatgcct gttgtcccag ctacttggga gtcttgaggt gagaggatca cttgagcctg 1980
 ggaagcagag attgcagtga gccgagatca tgctactgca ctccagcctg ggcaacagag 2040
 tgagagcctg tctcaaaaa 2059

<210> 100

<211> 1773

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22352

<400> 100

gtaaatagta gaatgtgaat ctggttttct tttgcttgca aattgccatt cttttttttt 60
 ttcaaattta aaattacaca tgctgttttt ttctttgatg gggagaaaga actcattccc 120
 tgagttcatt cttttttgtt gatgtcatcg gtaatcttca agacttatgt aagtagagtt 180
 gtatttgggg aagatacatt ttatattcac tttttttttt ctttctgtag tctacctctt 240
 ttactcaaac tgtataagga aatagtgcact gattgttcag gtttggcatt ttcattgcta 300
 cctgcctgca gaattaatgc cctcttcctt gtctaagata ttactgtgtt aagtgtcctg 360
 ttaattataa atagttcaaa atggacagac tgtcaacttg aaatttactt atgtaaaaag 420
 cttaggtgat tcttaggggt tccatgttca taactttaca aagctttata aaaataaaat 480
 tgcaacttaa tagagctaatt taacttgtat ttgtataaaa agaaaaaaga attgcagctc 540
 gatattgtga agtttttcaa taacttcatt aaaccatatt tatgatggga gggaccagac 600
 attctatagt aataatgtat agtgcgtgtg ataattccat ggtttcttca acatcttatc 660
 aaccaagtaa aattaatata agatacgcaa aagatagtaa aataagaatc taattatagg 720
 tgcaagggga ctcaggctta tgctggaaga atctgacaag tggatatagtt tgtttttcta 780
 ggaagaattt actgatgagt cacataactt gcatgtaata ttaggttctc attttttagc 840
 ttcgaaactg gtccatgca aagactctat aactgttaag acttgtgtgg ttgaattttg 900
 acttctttga tattcagcat ttagtgcata cattttgcaa ctagggaatt tgattttcta 960
 taccacaaat aatatitagt gctaacattt attaggcact tactatgtgc taggcactgt 1020
 aagcacttta catgcataat ctcggtattc cctgtgagta cagggttaat tatttacctc 1080
 tatttcacaa atgagataat gaagtgggat gaagtgcgag gttaagcaac ttgcttgaag 1140
 tcataggtag taaatcgtgg ggccaatttt aaccagaca gaccactgac tccagttcat 1200
 gcttttgctg cctcactttt ttaagtggta tttttaatta ggaagaccat gctaaagata 1260
 ctttcaagga taaatgatta ttttctcact tcaattgttg gtttaaaatt agcataaata 1320

ggtaaaacca gcatgctcaa acaactgagct caaacattaa cattactaat aaaaaaaaaa 1380
 aagagtgact ttaaaagttt ctttctatcc agggtttctc ttgggatact catatggtat 1440
 attactggct tatatttcaa aattatttta ttcaacatga ttgactttgg ccttttataa 1500
 ttacataaa acataatttt cctcagttct gtaatccaga tttcccccatt gagtaaata 1560
 atacaattaa atttaccatat ggtaatttag acatttaata ggatattgca taggtagaat 1620
 actttgtcag tacttagtta ctacctatat gtatttttgt gttacttttc agtgatttaa 1680
 agaaatctaa cagaaatctg cttaaatttg ttttaaatag tgaatatcct gcttgctatg 1740
 gaatgaataa acaggtaaatt ttgatatgaa aaa 1773

<210> 101

<211> 1641

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22394

<400> 101

aaaaaaaaaat gattagttaa gtgcatacat tatgaaactt acagaataaa acttattata 60
 catctctttc ttaaatataat atctttacac attttcaact ggctcccaa gtctgataag 120
 gaaggattaa aagaaaaaag aatgtatta gttgggtggc caaggagttt cctttgtaat 180
 gttgagagac ttccgctttc tgaatttcgc tggttctcta aggtaaaaga gttaaatagt 240
 acccttgttc accaaggaaa gtgatccaaa ctatatatct agtgcagata tttcctttgc 300
 attatttagt cttctctgga gagaaaatac agtttccctt tcctctttct cttcacattt 360
 actcttttca acccaaaata agagacatag aaagcaaacc acagccagtt tggcatcttc 420
 tcagtgtac tagtataggc acatacacat acacagtctc agcaaggta taaagaacct 480
 tgtcagggtc acttgcaaca tggccttgct acttgatta gctccttta gcctgaaaat 540
 aactttcctg gtcattggaag aactggacgc atcttttaac ttatgaaata gaagtgaac 600
 ttgaaaactc tttttaaaaa atcctggttt tgcaggacag ctacataatg aatgtatata 660
 ttaagactgt agctgaattg cacatgaaat cagattgcca acttcttgac tttcaatgtt 720
 agacatttat ccttaagttg tgagcgatat atgtagcatg ctgtgaaatg tctgttatag 780
 ctctttaatt catcagtatt aatacagaat tatcatttgc gtttcttggg actttttatt 840
 caatgtaatc agaagctgtg atgttttgcc tttgtagtcc tgtgctttgt tactgtaatt 900
 tttttttttt ttacgaagc acgtgactgg actaatgtaa ggcagatgac gtgatcttta 960
 agactgctat atatatcagt ctcttactct ataaggtttt aaattagaat aagcttttat 1020
 caaatagata attgatgcaa tttaggattc acgcaagttt cagtgtcaaa tggcggctctt 1080
 atagtittcaa ttctgaaaat agcaaaacta ataaacagcc actttaact tgttctggca 1140
 aaccagacct tgctgtagat atagtctaag gtagttaacc atataagcct tttcaactct 1200
 taatgccctc cacatgaatc agcagttaag aaggttctag aacccatgaa agcttttgta 1260
 tgtattacta ggttttgtt ttcttatgtt tgctgatttt acagttctga ctaaagctga 1320
 octaaatgga tcagtttatg tgtaatatc tagtgcttta atgactcttt ttttcttgg 1380
 agggagggtta acattatttg gacagatgca gaaggaactg ttagtgagtc aagacaaaca 1440
 catctgaaat aaaggaactg tgtattaaca tgtaacaat tcataactgc actttttatg 1500
 acattttgaa aatctattta taggtacaga acaatgggtt ttgttaaact gtatcacatt 1560
 tatacttgca gaaatttatt tcattgttat tagtaggaat tttattgggt caataaaatt 1620

ggcaaaactg aacaccaaaa a

1641

<210> 102

<211> 2960

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22423

<400> 102

ttggggcata tcgctgcatc agagaatcca cagagcaatg caaatagaga aaaaacaaag 60
ttagaagaag gaaatatgcc aaccacttga ctagagagga aaaagaaaat ttattcaggg 120
aagaaagcca cagaagtgtc cttttgtgct ttctagtgc ctttaggaga ttttgtctct 180
cacacattca tcatgtttgg gccaaagccca ctgggtgcag cgggtgcagct cgggaagcat 240
cggggtgagc ttcaaggaca gagtttcttc cagtcctaag ttgtctgata tgtttgttca 300
taaaactgcc ctttctctga cttttcaggc cagcagcccc agccagaaat tatcgttttc 360
cccactcttt atattataat gacaataaga tttttcagtg ggggagcatc acatatgcaa 420
tcagggtggca gaaaaagtgc ctgcaatatg aatttagaga ttgattacc cagcacatgt 480
ttctgtcctg tctctaacag tctctggaat ctggtagacc ttcctgaata ttttgctttg 540
tctgatgatg actttaacat attgctgctg gtgtgcatcc gtgtgtatac tggacagcag 600
gaaactagcc tgtgccactg cccagctcag cagcagaaca agaggctctt gatgaccgta 660
agttaagaa atataaatat gtctgcacc acagaatata cagaacaaga ttcacccatg 720
ctagaaatat atcataatct tgaatgtgct ttttaagcc actgcaccaa gccataaacc 780
tcttcttttt aagtttatg ggtagtcagt ttctagcttc ggtcactgct aaggaagaca 840
aaggaggata ctgtcagatt cttctgctc aaaatgttct ccatcctggc agtatatcag 900
agcaggtcaa caactcaaca gcttgcatct cagaactact gggcttttct aggtgccctg 960
ctctctcccc tccccgctc tttgttcttc aaggcttttc catgcctacc acctgaggtt 1020
ggagccctcg ggcatttttt agttctgcca aagcacatag tcattgaaag acctgcgtga 1080
tccccgtaac tggcaagcca caacctcttc tctcaaatga cctccttctg aaagttttca 1140
gaggaaagag gattgaacag agagggacag atgatcacag atatcttgaa attgccaaag 1200
ggagtagact tgttatgaaa tgctgtgagc cagacacgaa gggaaaaaac caggacagct 1260
catttgggca gagagcaaag acaaagcctt caatcctatt caggagctga gccctgcagg 1320
aaacccactg cctctagcca cagtggagag gtgcaggcac agtgtggtg gctactcatc 1380
ggaggtgatg cgggggttgt ctgagaatgg agggtaggaa tgatctttat ctgagtcctt 1440

tctacctgag aacagaacag aacacacacg cacacacaca cacttttgta taaaagata 1500
gataggaatt taattttcat aatgaaacat atcaaatctt ttgatattgt cactattatt 1560
gcttagtggt gcaccttta atacattcat tttaattaaa aagtggatca agttaagcaa 1620
actaaatggt agagtttata caaacagagt tgcaatgcaa ggactaaggt tcttagatct 1680
acagagtctc tcatacttgg aagtgaagct atagatgttt tttgaggtgg aatctcgctc 1740
tgtcgcccag gctggagcac agtagcacga tctcagctca cttgcaacct cgcctccag 1800
ggttcaaggg actcttcaac ctacgctcc tgagtaactg ggattacagg cactcgccac 1860
catgcccagc taatccatgt attttagtag agatggggtt tcgcatgtt ggccaggctg 1920
gtctcaaact cctgacttca agagatccac ctgccttggc ctcccaaagt gctgggatta 1980

caggtgtgac ccacatgac tgacccctga agctataggt tttatgaggc tagaagttga 2040
 ccaaggagtg gaaaacaagc attgcttaac tgaaccaaga catctgttgg ttgaccttct 2100
 cagaaagaga ccaaaaagta tagcatttga tcaaaagata actattaata ttacaaatga 2160
 aaagagggag agaaagaaat tataatgaac tgtaaaaaag aattgacaaa cggatagaaa 2220
 ctggaataac atagttaggt gtgacaatgg taagagcaga gagaaagagt gagaggatat 2280
 agagtataat gttaaccttg ttctttttta ttaagaacat cctaagcgtc ctaacattag 2340
 acgcaacat gagggccgcc tagcaaata gtcttgagat tccagtgcac ttttatacca 2400
 ttcttaaatt ctgtataaca agtttctggt taacacatg gctaaacaca attatttctg 2460
 aattcctgtc actctgccac ccataatgtt taaaacaaag aggtatcctc atttactga 2520
 tgtttaaact caggaatgag atgtgtcagt agctttggga acatgtaaag ctggaaagta 2580
 ggaattcttt aaataaaaac tcctagtctt tcttctgag accttgcttt cagtgtgagg 2640
 tggctgagga ttggcatttg acttgccgtc ccagtcacc atagtggaga cctcagtcca 2700
 ccaagaaatc aggcgaatgc tgtgtttgca atgggagaga caagatgttg agtgttttac 2760
 ctgtattacg tcatctctcc tcaccacagc ccttgaaaca aggaatctta cctctatttt 2820
 tctgttggtc cagaagagaa acttttttgg gagacatagc ctccctgtat caccagaag 2880
 gcagaggtta gagttagccg agatcatgtc actgcactcc agccgaggtg acagagcaag 2940
 actctgtctc aaaagaaaaa 2960

<210> 103

<211> 2920

<212> DNA

<213> Homo sapiens

<220>

<223> nb1a22439

<400> 103

ctigactcct ccttttagga tgtccagatg taaaaaaaaa aaaaaaaaaa gaaaaaaaga 60
 aaaaaaaaaa gaaaacagct gcagttcagt acaactgctc ttttcacact caactcccta 120
 aaactccttg taaccttctg taactattgg atgacgcttt ctccagctta gccctaaata 180
 aagcacagtt taaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 240
 aaaaaagaga agaggagaaa gagagagagc agagagcgag cggagagcga ggtgtagaga 300
 aaccgagggg gagagaaccc gagtgtgtgt atgcgtgtgc gtgtgtgagc gcgagcgagc 360
 gagcgagaga gaggagcgag agagtgtgag cgagaaagaa taaaaggaaa gaagattttc 420
 tctatgtata taaagatggc cacgttagca aacggacagg ctgacaacgc aagcctcagt 480
 accaacgggc tcggcagcag cccgggcagt gccgggcaca tgaacggatt aagccacagc 540
 ccggggaacc cgtcgacat tccatgaag gaccacgatg ccatcaagct gttcattggg 600
 cagatcccc gcaacctgga tgagaaggac ctcaagcccc tcttcgagga gtttgcaaaa 660
 atctacgagc ttacggttct gaaggacagg ttacaggca tgcacaaagg ctgccccttc 720
 ctcacctact gcgagcgtga gtcagcgtg aaggcccaga gcgctgtga cgagcagaag 780
 actctgcccg ggatgaaccg gccgatccag gtgaagcctg cggacagcga gagccgagga 840
 gatagaaaac tcttcgtggg catgctcaac aagcaacagt ccgaggacga cgtgcgccgc 900
 cttttcgagg cttttgggaa catcgaggag tgcacatcc tgcgcgggcc cgacggcaac 960
 agcaaggggt gcgcctttgt gaagtactcc tccacgccg aggcgcaggc cgccatcaac 1020
 gcgctacacg gcagccagac catgccggga gcctcgtcca gtctggtggt caagttcgcc 1080

gacaccgaca aggagcgcac gatcgggcga atgcagcaga tggctggcca gatgggcatg 1140
 ttcaacccca tggccatccc ttccggggcc tacggcgccct acgctcaggc actgatgcag 1200
 cagcaagcgg ccctgatggc atcagtcgcg cagggcggct acctgaaccc catggctgcc 1260
 ttcgctgccg ccagatgca gcagatggcg gccctcaaca tgaatggcct ggcggccgca 1320
 cctatgaccc caacctcagg tggcagcacc cctccgggca tctactgacc agccgtgctt 1380
 agcatcccat ccccatitgg ggtgaatggc ttaccgggcc tccccccaca ggccaatggg 1440
 caacctgctg cggaagctgt gttcgccaat ggcatccacc cctaccagc acagagcccc 1500
 accgccgcgg accccctgca gcaggcctac gccggagtgc agcagtatgc aggtcctgcc 1560
 taccctgctg cctatggta gataagccag gcctttctc agccgcctcc aatgatcccc 1620
 cagcagcaga gagaagggcc cgagggtgt aacctgttca tctaccatct gcccaggag 1680
 ttgggggacg ctgagctgat gcagatgttc ctccctttcg gcttcgtgag cttcgacaac 1740
 ccggccagcg cgcagaccgc catccaggcc atgaacggct tccagatcgg catgaagagg 1800
 ctcaaggctg agctgaagcg gcccaaagac gccaatcgcc cgtactgagc gccggcggga 1860
 gcgctccccg ggggagacca ggactcgcac agggcaggat gctgaacggg ctacattaaa 1920
 aaacaaacct ctctctatat atatttataa atgagaactg ttggatgaca ctttgacat 1980
 atcagccaat atcaatcaag ctgaagactc cagacactgt ctgtgtgact gtaacatttc 2040
 ttcaaggaaa gtatagcgtc tatggagttc agagggcacg tgtttggggg aaaatatata 2100
 tgacatgaag aagaagatga agaaaaatga gaaaaaaca cacaaaaggc aactttaaaa 2160
 caaaatatca cgagcagacg gggaggctga agggctggga gctgggagga gacgtgctt 2220
 accgatcccg gggcttttcc agcccacggg cgcctgacgc aggttggggc aagtgggtgcg 2280
 tggggccttg tcccaaggg gcggctgaga ggccgccact gagcatctct atctgtcatt 2340
 cctttagcta tttaggacc aaaggaccaa actttttatt gcagatgtgt agctctatgt 2400
 caaatagagg gggaatggag gacccctcc ttctgcctc atggctgttc ttgaaacagc 2460
 ttagagcgat tctatgaaaa aatgtaataa aaaattaaaa aaaaaacaaa aaacaaaaaa 2520
 acaacaaaaa aaaggaaaaa taacgcttca atgcttttaa aacagcaaga taatagttct 2580
 ttgatacttt gagaggcgt ttgatgaccc tcatccaagt ctatgacact ttcctatggt 2640
 tttctgtatt ctatgtctgg atggagctgt taaaagatga acaaattggt ggatatttgg 2700
 ggaaagcaac acaaatctta aaactcaccg gtgaagtgtg agaaaacaag gaggggaaca 2760
 aatgggactt accaagcaag gtcattgttg tgaaaagtct gtaaatgctt ctaactcttc 2820
 cccctcttaa aatcataata gttgtacaga attttaaaaa ggaaaagttt aaaataccta 2880
 tataatagaa gaaaaattag aggaaagcaa aaaataaaaa 2920

<210> 104

<211> 1522

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22633

<400> 104

tcaaggctct ccaggagtc cccctctgcc ggcccccaa tgccccagct ccctcctact 60
 cgctggagat ccagtgggtg tatgtacgga gccaccggga ctggaccgac aagcaggcgt 120
 gggcctcgaa ccagctaaaa gcatctcagc aggaagacgc aggggaaggag gcaacaaaaa 180
 taagtgtggt caagggtgtg ggcagcaaca tctccacaa gctgcgcctg tcccgggtga 240

agccccacgga cgaaggcacc tacgagtgcc gcgtcatcga cttcagcgac ggcaaggccc 300
ggcaccacaa ggtcaaggcc tacctgcggg tgcagccagg ggagaactcc gtcctgcatc 360
tgcccgaagc cctccccgcc gcgcccgcgc cgccgcccc caagccaggc aaggagctga 420
ggaagcgctc ggtggaccag gaggcctgca gcctctagac tgatgccctt gccccgcgc 480
atccgcccc acgtgtaca gagtgcata gtagccgcgc gaccaccggg gaccgactgc 540
ctgcgtccag ccgcgcccc tccccaggc gcctgtggc caccatgtcg gccctctttc 600
caccaccctt tgctcagcat gtaagcccca cccaccctg cctttcaga cccctgcggt 660
gacctggctc ggagaaggtg gccctgggca ccaaggggca aaccgcccgt aacctgggg 720
cagggaccat gctggggccc ggggccacc ctttctgtc accagcttct gtggagtcca 780
gtgttttgct ttgcttgctt gtccccatc ctgtcctgag ccggggcccc ccagcctcgc 840
ctccctctc ctaccatccc tcaactggac ctgggggtgt ggacagtac cctccctga 900
atatggactt gaattcttg agcagaacta gggcctctc cctggtgaag acccagggaa 960
cccaggaggc cctttctgg gcagtggctc tgcagggtca ctcatggagg cctaggggaa 1020
cagcgagatg cccaccacc tctggcgag tcttctctgt tcagctccct gtgcgacct 1080
ccagggatgc aggggatcca ggattctctg cctgtcaca cggcgagtca gaaggagg 1140
gcctttccct cggacctatg gcccaggca gattttgca ccagcaggc cctttgagg 1200
gccttcaagg ctctcccagg agtccctctt gggctctgt ccaagtccgc cccagggcct 1260
ggggctgttg ggagccaagg gcccctggt actcagttc ctacagatt ccgatcacg 1320
gcacacctgc cccctggta ttgttaaata ttctatttg acccaattct cctcggaatt 1380
ggctggcacc tctggctgcc gcagctcagt gatgacgtg gggagggtgg agaggccgag 1440
ggctttgcct aggggtgggt tgccctgtat acatgatcca gtctgtgact accagccaac 1500
ctgaataaag cgtttttaa aa 1522

<210> 105

<211> 2914

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22698

<400> 105

gttttaagaa actgactgtg gctccagagt atgttgaga agtgaaatg gagactagga 60
ataacagggt ggagactatt agtctaatta agatgtaatt ataaatctaa gctaggaacg 120
taaaatgaga atgcaaagta agaaacaaat atggggaaaa ttatatgtaa aagtaatagg 180
acttggcatc ttactgatgt gattgattat gagaaaaatg aagcatgtgg aggagtccac 240
tggacagtag gaaattcagc ctaagacttg ggtaagagtt ctgtggagtt gtgaattcag 300
aggccagaga tgtatattt aaaatttttg ttcaagattt cccaggtata agaaagcaag 360
aggattaaag cattgtaatt aaactttaag cagtgcata ttatgttata gataagataa 420
acaagaaatc taggatcaa ataggattaa aattagtagt gatcattcag tacagtagtt 480
acgtactgtt attcacaaga gtatataaat caaattacaa ggaattaagg atataaacgt 540
gataagaaag tatgactgt actctttgag gaagtttgcc atagaaagga agaagaaata 600
ggatggtaga tcagaagtaa agcaggaccc agtgggggga gtgtttgcag tgaggcagta 660
tgtataatca tttaaaacat gggtttgag tctctcagg ttccatgttt gtaatggaca 720
taatgataat aatccctttc atttaaggct gttgtgagga ttaaatgtgt taatgtgcaa 780

ataactttac acagtgcctg gtatataata aatgcttgct acctattaac tagtatttgt 840
 ttctaaggct aatttaagtc ctagaattga ttgcaaggat tagatcagga gtatagtga 900
 catgttggga tttaaattatt taaatataga gatgcttttt aggaccattg ttagaaccag 960
 aagagatttt ttaccaagtt cacacagaaa tgtagggtgca ttggctgggc atgggtggctc 1020
 acacctgcaa tcccagcact tgggaaggct gaggcagaag aactgcttga ggccaacatt 1080
 ttgagaccag cctgggcaac atattaagac cccgtctcca ccaaaaaaaaa aaaaaaaaaag 1140
 aagtaggtgc agagctggaa gcagaaccga aatcatcagt gttacagtca ttattctttc 1200
 ctgtcaccat tatatgtctt tatgaagcaa gggagaaaga agaacagatg aaagaagtga 1260
 ggattttgaa gttgggtgaa agatttgatt gaattctgat ctaaaaatta taaggcactt 1320

gtttaacaag ttgaaagtag gaaagtagac ataagactct actagatttg gggaaactct 1380
 caaaaatgga ctggaaattc agctaaaagt ggataacaaa atatttctag aattagcatt 1440
 tgtggggtgt gtgtgttttc actctagtat ttgtcaagcc cagatgaaag catagacaga 1500
 atgtaagact ggatttatct aagtctggaa ttgtgtaaca ttaaaggaat agtagcaaat 1560
 gagcagagtg ttggctcaag cctaagcttg agcctaagct tgactctatg gtaaagtcaa 1620
 gtcaaggag aatagaaagg gggtcacat aaaggtcaaa agtgggttta gtggttgtgt 1680
 gggaataggc agatcaagaa aagaatgaag ttaggaaagg agatataagt gttgaatgac 1740
 cattacaaaa agagacagag gaaagaaaaa tgaagatgta tcaaaagaag ttgctaatat 1800
 ggatggcaaa gtatagtgtt ttaagaaatc atgagaccag agtcttggaa aagtcatagg 1860
 atgatgcagg gaatggagaa gagggaaata aagccagggt ctgaagtctt tatgtaatgg 1920
 gaggagatgt tccagtaatc caatggctat ttgatggga aagagtgtgg tatgattggg 1980
 tggcattgac atcggaagcc atcctcattg atgggtgttg aacagcagtt tgaaagtaac 2040
 attgtgcggt gaggtagagt ggcacatgat gcaccttat tcttaccttt ggagaaaagt 2100
 tgaggagac caaaaatgac tttttgaggg aattgtagaa gtttcattag aagaaaagta 2160
 agtttttaat taaaaagtta atctgaggaa caggtagaat aaaagtgtag ttgttagtgg 2220
 tagaagagaa tggattccat agggcaaaaat aagaactcaa gggaagggtg gtggaagagg 2280
 aagaggattg aattgtttca agaaagaata gcagttgtca tccttatgaa aagtaaaatt 2340
 tttattttca aatcaggaaa tgtaaaatgt gccttcaga ccccttgggt gtatacatgg 2400
 gagattgggt ctaggacaca cacagtccca tccccaccc tctgaccca tacacccct 2460
 ggatactcaa atccactgat gctcaagttc ctgcatataa atggtatagt gtttgcattg 2520
 gacctataca caacctctta tgtgtacttt aaatcatctc tagattactt atattaccca 2580
 gtacaatata aatgttatgt aaatggttgt tatagtgtat tgtttaggga ataatagaaa 2640
 gaacaacttt ctatacatgt gcagtacacc attgttttac ccccaaatat tttgatcca 2700
 aggttgggtg aatcggaacc cagagatata gagggctgac tatactttta gaattagaat 2760
 tagctgggtg tgggtgtggg tgcctgtagt ccagctact cgaggaggct acgcaggaga 2820
 aaggcgtgaa ccggggaggt ggagcttgca gtgagccgag atcgtgccac tgactccag 2880
 cctgggagac agagcgagac tctgtctcta aaaa 2914

<210> 106

<211> 1696

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22896

<400> 106

catgtagcaa atctgagaat tgaaaactgc agataaccgg cgggtatgg tgactcatgc 60
ctgtaatcct agcactttgg gaggccgagg tgggtggacc acctgagggtt aggacttcaa 120
gaccagcctg gccaacatgg tgaaacccca tctgtactaa aaatacaaaa atttgcctgg 180
tgtggtggtg catgcctcta gtcctagcta ctcgggaggc tgaggcacga gaatcacttg 240
aacctgggag gcgagggttg cagtgagtcg agataacact actgcattcc agcctgggtg 300
acagagttag actccacctc aaaaaaaaaa aaaaaaaaaa aaacagaaaag aaagaaaaag 360
aaaactgcag ataaccctat acattaatac tggatatctg aggtgactct tctgaccaag 420
ggtgggttaag tgacacatag aacttttcta agagaagaca gacaagtga caggcatgcc 480
ttgtactcag ctgtgttcat gtggtggtct gtggaaagaa aagaagactc atttggaat 540
gaagctgtcc cttccaagc agtctctggt gcttttcttc tctcaaatg gatccgataa 600
atatttgaat agagcagatt gtagaatgtc gtgctgtcac cagaaagctg ctgttttggg 660
ttctgcattg agccaaatat gtagaggacc taccaagccc actgagggac taggttttca 720
tgtctctagt catacctaga atgttctgag ccgtctgagg gccttcatgc cggcagcagc 780
tagcaaagcc agaaagcaag tctaacagga tctaagatga ccatcaggag aaggagttag 840
agactgtgta tgcaaccccc aatagacccc cttttactct gatctggaga atgtatctgg 900
cttcataattt tcaagtcaca tgtctctcag acccctggat tcagaaccca aggccacaaa 960
tcatagcat gaagcacttt cttaagactg acctaacgct ggattatttc ccgtccaatg 1020
cctgcatgct gcttgaattg ctccaccac acctccatga ccaagggcgc cagagtgtg 1080
caactggggc gtgggcccgt ctctgctttt cctgtctgac tctgacaagt cctccctcac 1140
tgaatgtaga atcgttgcca agtttctgag aagtgtcgat tccctgttaa catggatatc 1200
agtctgcct cacatttccc acttgagggt gaggcgctact ggagacaaca cctcagacca 1260
tctgaacccc atcagtggat gaaaatgggg ctgttaatat actctaaaag ccatactaaa 1320
aatgctctga gggaaactggc taagaatagt gggcctggtg attgtctatc acgcaaggct 1380
ttgttttgta ctgttcagaa atctgtcacc tttctgcctg cccttgtttc ctgaatgaaa 1440
tgcttctggg gttatttatg aaaggagtga tcctggggca ggcaggaggc agtgggcttc 1500
atggctcctt gaagttatta ctgatctga ccttctcttt ggctaccttt agacaaagaa 1560
tacgccaatc aatacttggg gctctaagtt ttacaattga tatttatttg tatcatctct 1620
ttgtctagga atgtaaaagt gattctaaac taagatgtgt aataaaaatc aatcagattt 1680
attgtacctc caaaaa 1696

<210> 107

<211> 1742

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23167

<400> 107

gagcatacac agggaggett cactgggaga ccacattgac ccatggggcc tggaccacga 60
gtgggacagg gctcaacagc ctctgaaaat cattccccat tctgcaggat ccgttcccct 120
ggcagcagaa ggtcaggttt gccaaaggaa tcgcctccgg aatggtgagt cccaccaaca 180
aacctgccag cagggcgaga gtagggagag gtgtgagaat tgtgggcttc actggaaggt 240

agagaccct tcctatgcaa ctgtgtggg ctgggtcagc agctattcat tgagttgtc 300
tgtgtcactg aaactgaccc cagccaactg ttctcagttc acagccctgt tttcaaagaa 360
ttacacatct ctaaaggcaa acagggcacg gacaaggcaa actggagagg caaactgtag 420
cctgagatgg cctgggcttg ccatcacagg tattcaggtg ctgagggcc ttagaccaac 480
tagagcacct cactgcctag gaaatcaatg aaggggaaat gagttctagc ggagccctga 540
aggatcagaa ttggataaag ttcttattgg cagagaggca ccaggattga agtgacagga 600
gcaaagacct gggaggaaaag aggagaaaat catctatttc acctggaaac aaatgattcc 660
aagcatagaa ataataacag ctgacaagta ctgagtgcc tctatatgct aggcactggg 720

ctgagggatt aacatgcatg tgcatgttta ttctcatga caaccttggg ttccagataa 780
gctggactgg aaaggacag agctgggatc ctgggctaag cagtctggc gccagccctg 840
agactttagc cactgccctt cacatggggg tccatgaaaa tagtagtagt ctggaacagt 900
ttgggggtac atcaaggctg ctgtgtttta agctatggag tctggactat aggagacaaa 960
tgtaaaagag ttttttggtt gactggcitt ttggttttt tgtttgttt tttgtttgtt 1020
ttttgtttt tttttcctgt ttctggggct tgaatcagga aggaggtttt tttgtttgtt 1080
ttgttttgag aaaggatatt gctctgttgc ccagactgga gtgcagtggc acgatcatgg 1140
ctcactacag cttcgacctc ctgggctcaa gcaatcctcc tgccttagcc tccaagtag 1200
ctggactaca ggtgtgtacc accacaccta attttttgaa ttttttttc tttttttt 1260
ttttttttt tggtagagac aggttctcac ttgttgccc aggctgatct caaactcctg 1320
ggctcaagca ttctcctgc ctgcctcc caaagtgtg ggattacagt tgtgagccac 1380
catgcccgcc aggaaaagat ttttaagcaa gaaagctta gagctgtggt ttttccaaa 1440
tgagtctggg ctggcacagt ggctcatgcc tgtaatccca gcacttttt gggaggccga 1500
ggtagtgga tcacttgagg tcaggagtt gagaccagcc tggccaactg gtgaaaccct 1560
gttttacta aagaaaaaaa tgcaaaaatt agctgggcgt ggtggtgcac gcctgtagtc 1620
ccagctactc aggaggccga ggcaggagaa tagcttgaa ctgggaggca gaagtgcag 1680
tgagccaaga tcacaccact gcattccagc ctgggtgaca gtagtagact tcatctcaa 1740
aa 1742

<210> 108

<211> 1416

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23339

<400> 108

tttgctagag ttacatggat tatatatttc ttaaaggga aaatttgaga gtatcatgga 60
ctaccaccag cattattatt acagtagtta ctgagatttg gtaaggaag cccaagcaat 120
gtatagtgaaggattatta tctctctgct aagattcaga tattgtttca gaaatctcag 180
ctccagtaat tccacaacat ctaaaaacaa atgtttgtga tcatgtgtaa gcatgaaatt 240
gttccaagta agtgaggata ttttagttat gtgaaagaca gtttcatgga aggtatttgt 300
tttataccag tggctgggat ggtggaattg gggttatttc tacaattatt cttagacgat 360
tactaaactg ttaagaaatg ccccatatca tttttgtatc taggaaagaa aaaaatcagt 420
ttcatactgt tgtcatctgt cagaaatgct cattttattt tgaattaaat gtggcttttg 480

aagtagctag ttaccttgaa ttcctgggtga ccacatgttt ttatctggaa aacctggaga 540
aagttatctg tcccatctcc cctgcttggt tttttttttt ttttttggtt ggagctgctg 600
tttagatgat gcttttacta tgcaggagag agtttttggt aaggatatat ttgaagattg 660
gcttttccat attgtccttc attctttgac catggcaaag tgtacagtag attttcatga 720
tcattgcata tttcttgica ttgaaatgta tcttttatgt ttttaaagtc attcatttta 780
cacttgtag tttatcattg actttaagag gtagaaatga aaaatgaaaa ttaaagctaa 840
agccttttta tctattaatg cagatatatt agaataagaa ttttttggtt ttgtgtttat 900
tttttaagta atttatgttt acttgatatg gaaaattacg ctttataggt ggaaaagtag 960
caaataaaga ttaagtaaaa gtaagtgaat atgatgggga atatatgtatt ggaattttat 1020
agctagttaa aacaataagt atcatctaatt ttgggtgttt attttgcaga tgagaaaaca 1080
gacctagaac cgtggcatgt ttgcctgaa acatacagtg agttagagac agggcctaag 1140
atagcttcta gcatcagatc aatcccaaga atccatcagc aacctcagac caaccaaga 1200
agataattta aatctatact gcttattggt caatataatt ggttctagta ttaataaaga 1260
aaaaatgtat taaaatagca tacatagtag taaaataaaa taaaaaagt gtgttgattt 1320
atagctgttt gagatgataa aagtgaagca aagcctgtta aatcattgga agacttggaa 1380
aattatttta aataaacaat tacatgtaat taaaaa 1416

<210> 109

<211> 1549

<212> DNA

<213> Homo sapiens

<220>

<223> nb1a23352

<400> 109

gggattggga ggcccacgcc ctgctgcgag aagggcggt tctagctcct gaggaagggtg 60
ggagtcacac attttgacaa gtctcctgaa aggaacagct agcaggaact gaaacctttt 120
tccatttggt ctgctggcaa aggcagagat tgctccagca gctccacaca aaatgatgtg 180
ctcacgggtg ccctctgaac agtcttcttg tacctctctc ttgcctaaag acggtgcccc 240
attttcttg gattccttg atgaggatgg attggatgac tccttgctgg agctgtcaga 300
gggagaagaa gatgatggtg atgtaaatta cacagaggaa gagattgatg cactgttgaa 360
ggaagatgac ccatcatatg agcagctctc tggggaagat gatggtgggc atgttgagaa 420
gggagaaaga gggagtcaaa ttctacttga tactccccga gagaaaaatt catcgtacag 480
cctgggacca gtagctgaga ctctgacct cttcaacta cctcagctaa gtacatcaag 540
tggtcatgga ccagctcata ctaaaccatt aacagacgc tctgtactag aaaagaatct 600
tataaaagta actgttgac catttaatcc aacagtttgt gatgctctgc ttgataagga 660
cgagactgat tcgtccaaag atactgaaaa actctcttcc cttggagaag agatgagaga 720
agatggtctt agcccaaatg aaagcaaat ttgtactgaa tctgaaggga tcagcccaa 780
taactctgcc tggaatgggc ccagctctc ttcttcaaac aataacttcc aacagactgt 840
ctctgataaa aatatgcctg acagttagaa ccctacgtct gtattctctc ggatctcaga 900
ccattcagag actcctaata tggagtattc ctgcagaaat ggtggttcac acaagtcaag 960
ttgtgaaatg agatctctgg ttgtttccac ctcatcaaac aaacaggatg ttcttaacaa 1020
ggattctggg aagatgaaag gccatgagag aagactaggc aaagtcattc ctgttctaca 1080
aactaagacc aggactaatg ttccgacgtt ttacagtc aatctagaac agcagaagca 1140

```

gctttatctc aggagtgtca ttgctcatat agaagaccca gaggacacta accaaggtat 1200
ctcgggggag ctttgtgcct tgatggatca agttcatcat atgcagcact caaaatggca 1260
gcatccttcg gacctacca cgcgaaacta cgcccgcga cagaaacatc tgcaaagata 1320
cagtctgact cagtgggttg acaggaacat gcgaagccac catcggttcc agcgtctccc 1380
agacttctcg tacagttaat ttgtgtcatc ccatcagcaa tgaagggtccc tatccagggt 1440
cctgcttgga gcagcatttc atgttctttt gctgttttgt gctttgccga ttttggattt 1500
tatttttcac aaaattttta tttaaaaaac tcgtcacctt ttggaaaaa 1549

```

<210> 110

<211> 1797

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23575

<400> 110

```

gaggatgatt aaaataatgt gcatatatgt tgaagggcag aggatggtat tgcacaatat 60
agatgaaata gtcattgggt tgttttacat tctatgcatt tttaatgagc aaattcccat 120
ttacaggaat taaatgttcc agatattgat ttcagaggga caatatataa tatgaaaaca 180
aaattcagta acattatgtg atgattacat gatgtgtaat tcaatatagc tagaaccctg 240
gaaagtgaat aatataacca ttcctataaa atatttcaga aaatcaaatt tattccctga 300
agtacattat aataaaacgg aaacagtgtt acttgattta tagtcctcta attcaggctt 360
ttaaagctat tttcatgtca aaaataaggg attctttctc cccttgctcc cagtcttggtg 420
catagtttat aatgacaaga aaagctacaa aagaaacatt acaaagcaga tgtgctccca 480
agtttggtcc agtttaaaact tcagctttta gcatcttggt gctatgaaat attcatgtaa 540
attatgtaag tgcacttagt ttagatccca gtcactcatg ggttttctca caaagtaaaa 600
taccatactt gatcctgtct atttctagag agtgaatgct cacctgggtg atttgtacca 660
acccttagg gcatcagggg gacaatcaat taggttcact ggggtgttta cctgacagat 720
actctcctaa atactttcaa atgccctctc attttggtct cacaggacct gaagaagtag 780
gtgtcatttt catccacact ttgcaggagg aaacaaatga ggctcagtaa ggtttttagta 840
acttactggt tgtcatacat gaacagccag gtttcaaact caggaatcaa cagggtgcc 900
ctgactactg ggctactctc cctacattag atgcctagaa ggtatgcaag tggctggagt 960
aggggcaccg acttccatga atggtttaga gtttggtgta tgagcccctg acccatgctg 1020
aagtgactca ggaaaagcct agtcctggga aacttacgtt ttgtattttt tttctcttta 1080
acagttggta ctgaaggatt aaaattatct taaggttaaa aacaggaatg gttgagcatt 1140
gcaaaaagct tttgctgtta gaatagatga catctgctgc ctggctacaa gtcattttta 1200
gatgacacaa aatgatgcta tggagaccac agagcttttg taagaaagca gaaacgcttg 1260
gtcacttttc cgctaagtga ctcccttta ttggaagctg tactgaatct ggaatgctta 1320
taaattggtg caagggcaga tcatttcaga gtaagagata tttaaaaaca aagggttaag 1380
ggaaacctca attgaaacta gagcaataca aaataaaatc tcctactgaa ccctaaaaga 1440
ctcctactga ctgacccttc aaaagcaccc catatgtctt tctcttctcc tctgaaaagg 1500
taactcaggg ccggcggtg tggtcacac ctgtaatccc agcacttttg gagggcgagg 1560
cgggcggtat acgaggtcag gagatcaaga ccttcctggc taacatggtg aaacccgctc 1620
tctactaaaa atacaaaaaa ttagccgggt gtggtatcag gcgcctgtag tcccagctac 1680

```

tcgggaggct gaggcagggg aatggcgtga acccgggagg cggagcttgc aatgagccga 1740
gatcgacca ctgcactcca gactgggcaa aggagcgaaa ctgagtctca acaaaaa 1797

<210> 111

<211> 1957

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23592

<400> 111

ctaaacacat cgagttgcac acagatggaa ataacattta tgttaaattc tacaagtgtc 60
ctctttgcac ttatgaaact cgtcggaaac gtgatgtgat acgacatata actgtggttc 120
ataaaaaagtc atctcgttat cttgggaaaa taacagccag tttagagatc agagctataa 180
aaaagcctat tgattttgtt ctaaataaag tggcaaaaag aggcccttcg agggatgaag 240
caaaacatag tgattcaaaa catgatggca cttctaactc tcctagtataa aagtatgaag 300
tagctgacgt cggatttgaa gtaaaagtca caaaaaactt ttctcttcac agatgcaata 360
aatgtggaaa ggcatttgcc aaaaagactt acctgaaca tcataagaaa actcataagg 420
caaatgcttc caattcacct gaaggaaaca aaaccaaagg ccgaagtaca agatctaagg 480
ctcttgctcg ataactcaa gtgatgtacg aaaaggtttg gagttcattt ttgtggaaag 540
actttaaatt ggtgttagaa ccactaaaca tcttcaaatg gtactatgag gaaaaaaga 600
aaaacatttt tctaaatatt caactataac tgctgttttc tgactaaaat aaccatctaa 660
ccacttgttt ctaaggcact gcctattcca gcactttcaa gtagctgtga tattacatgt 720
tgtcatcaca gtccatcagc tatccaccct tgaccttggt catttggtcg acagtttcta 780
caaaaatggt acaaattttg ttttctaaac aatttgttga ttaagtgate aacaacctga 840
agaaaatatc aatttttaat tgacaaagac tttatatctt agtgatttta gttttgtttc 900
tctttatttg gcaacatttt catctgaatt gtatagatat atgattttct agtgagtgtg 960
tgtaggaac aaaagacaaa atagtatcaa cacattataa atatttagct tactaaatat 1020
ttgtaattat ttttaccatc atttatttct agcttggtct ccagcacttc agtgtttgaa 1080
agtttcatcc taaaatatat actacaggaa agctgcagtt cattttcatg catggatcat 1140
tacatttttc acttgtaaatt gtaggttttt atgaaaatta aacattcccc tatttttctt 1200
taaattttat acaaagcact ttaatgatag atgcaacctt atttttcagt tcctattttt 1260
ttaagacca cacatttact aatgttaata tgaaggtaat aaatagctta ctgatatttt 1320
atggatgcag acaatccatg cacaaccact tcttatgata ctagtttatt tccttaaata 1380
ttgctacaaa aggaagatgc ggggtgaagc cctgattttt ttttctccca agaaaaatct 1440
taaaggacca ctttagataa tatttgattc ctactgtaa attagaaaa tgatgaattc 1500
ttgtccattt ttgtaatcaa gatttttaga aaaacagaag tacatctatc tttatgaaat 1560
tttgggcagg tttttgtgta tcaatatttt gtacttttag ggaatatttt attttttagt 1620
tattttgtgc aaattataat tataaaaggt acagcagaaa atataccatg tttttatata 1680
ggttcacacc tgtacttagg agggaccctg tccatctata tactttttgt ataaaatttt 1740
aaaatgttaa agatccacaa ggtcttaata aaatgattct atagctagaa aaacatttac 1800
cttcccagtg ctttgacta aaatatactg tgaaaggaaa ctagaaagac tgtaactatt 1860
gctggaaatg ttctatatg aatgtacatg ctcttggttg aaaaatgtac tatatgtgat 1920
ggaaataaac cagaatcgaa gttatttcag ctaaaaa 1957

<210> 112
<211> 1674
<212> DNA
<213> Homo sapiens

<220>
<223> nbla23601

<400> 112
gagattactt cctgctgcac tcctgtcttg ccatgcacgt cttgccccct cacttttgct 60
cagcctagca gtctacttca ctttattgcc gtgtaagtgt caggcctcct ggggtgctctg 120
gaaaagacag ggagccaggc cctctcacc ctagtggtta caggtcattg ctgggtgcac 180
aagagggagg tgatttgcac catggtcacg ctgcatgggc ttactggga tgctgttaaa 240
caccagagga gccaacctat cagaatccca gcagcaaagg aaaactcaga ttttagaggc 300
tttttacaat aaagtagcgt aactctaggt catgattgat ttcaaagcc tgccatgaat 360
gatttgaag tatttatgta ggatccatca aagcagtatt gtaggctttt gaattgtccc 420
agtggatccg ggaccccat tctactgtct tcttgatcgt gttaatgatg caatcagagt 480
tcaagacagg ccccatgaag tctgactgca ctgggatgga gaaatgaatt tcttccact 540
gaaggaaact ctttctcatt cgcagccaag acgggagtg cactgttcct ctcttctc 600
ctgagatact gcttctggaa gcgggtgtca cttcctctct agtacctctt ctcttctctg 660
aagtgtgtga ctatctccta gtgtttaaat ttggcagtta ctgccatgt atgtcagcat 720
agaaaaggaa atgtttttac cttatctcct gtatgtatga tagaacttaa aagaaatgtg 780
catttgtttt catagcccca gcagagaaaa tcctcttcat agattaaatg tgctgctgtg 840
gacaggaggg aaaaaaaaaa cctctacat attgaaagg accaaatgta atatctgaca 900
ctgttaagat gcccaaaaga gcaaagttgt agtgagatg cagggtcatt tcccatgcc 960
atccacagtg tttgttagtg agtccacggc tgacttgag tgataaagaa aagcatggag 1020
ctgtgtctgc agacaatggg ggctgcatct gtaagtggct tcagaggcag cagccctggg 1080
gaaattgatg ggtgtggcag tggacctgtg aagagggaga atctagcctt cagcctgtcc 1140
agtgttaacc actagagaaa ctgagcttta tctctttt taatgcctgt gaatttttagc 1200
atattgaaac attagagcaa atactcaggg gatttttcat taaacatccc tcagataatt 1260
taggtatata tcattagaaa gggaaagcta tcatttttat tttaaaacta aacaaggcca 1320
tcttataaac tgtcaccaaa gtcttccctt ttttattgca tgtgtgcctt gaatttcata 1380
aaacattaat tcacaatggg ggtcagaatg tactcttggt gaaacacttc ttgtaccatt 1440
ttatgttcat attatgtttg agagggtaaa aatgtatgag cagcttaact gaagtagaac 1500
tattcatgat gcttttcaca cattgtggca taagatgtaa agttaagttt gtaattaatg 1560
ttaatttctg tgcattttta tttctttta taattattaa tgtaatttc tgtgcatttt 1620
aatattcttt tataattatg agcattttta taaattcatt ttacaaaca aaaa 1674

<210> 113
<211> 1490
<212> DNA
<213> Homo sapiens

<220>

<223> nbla23630

<400> 113

actcagtatg taagtagatg agatttggtg attttgcccc taaaacgggc tttagtcatt 60
ttaggagtga gttgcacaaa aggacctaaa atgcattgtt ttttgccctt ttttaagaga 120
tggggctctg ctctattgcc caggctggag tgcagtgtgc tatcatacat agctcactgc 180
agtctccaac tcctcatacc agaggcatgt gtcaccatgt ctactccta aaatgcattt 240
ttaaaaagcg aatttttaga ttaaagtgcc tagtttctga ttaataaata gaagatgaaa 300
aaagtgggcg ggaaaagcat aatcttttaa gatttgtaat tttctgtatg tgccacattt 360
atgtaaatta actataaaat atggaattca ggatcatgct gttttgcatg tactttatag 420
gttatatagc atgaaacata caaattatca ctgttcttta gtatatagct ccttgccttt 480
tcttacatag atgcttaatt taacaattac ctatttatag ttcttattat tgacgggaat 540
atgattagaa gtacaaaac taaaaattcc attatgtact gtttactttt tatttaatat 600
tacatgtttt taccttggtg cggatatctt ggccttcaca cacacatgtg tgcgtgcacg 660
tgcatttcat taccatgtag acaagacagt tattgcttat agtaatttac ccatttgagg 720
gctaagtgtt ttaagctgtg gttttataag caaagctgta agtaaatgta atttatttta 780
gaaagatatt atttgaaatc aattttgaag aattgcacta ttgataatg ctgctactac 840
atgagataac tctggggaat taattttatg agataagatg aatggcttct tagaagggtg 900
tgctttttgt ttttctttt tcttttttac atttcatctt agaaaaagtt gcttatattc 960
agcaggttgg ttigtcaaat tcagtgttg agtttgttt tggtcagttc agtagctgct 1020
actttagcaa gatgtggcct ttcacaaaag aggtaagagt gaccaaatag aatttttaga 1080
caataagtat aggaaatc tctttatcgt aagataagaa acttgaactt tttaaaggaa 1140
atgtcctctt gaaaagaaca tttctgactg catgcagaag ggtacttaag acatatataa 1200
caggccagga gcagtggctc acgcctgtaa tcccagcact ttgggaggcc caagtgggca 1260
gataacctga ggtcaggagt ttgagaccag cctgaccaac atggtgaaac cccatctcta 1320
ctaaaaatac aaaaattagc caggcatggt ggcgcatgcc tgtaatccca gctactcgag 1380
aggctgaggc aggagaatcg cttgaacccg ggaggcggag gttgcagtta gccgagatcg 1440
tgccattgca ctccagcctg ggcaacaaga gtaaaactct gtctcaaaaa 1490

<210> 114

<211> 3442

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23754

<400> 114

cttacaaatg tagcagttgt gaaagagtct tcagtcgtag tgtccacctt actcaacatc 60
agaaaaattca caaagatg cctgtgaagt gtactgtatg tggcagtgac ttctgccata 120
cttcatacct acttgaacat cagagggtcc atcatgaaga gaaagcctat gagtatgatg 180
aatatgggtt ggcctatatt aaacaacaag gaattcattt cagagaaaag ccctatacgt 240
gtagtgaatg tggaaaagac ttcagattga attcacatct tattcagcat caaagaattc 300
acacaggaga gaaagcacat gaatgtaatg aatgtggaaa agctttcagt caaacctcat 360

gccttattca gcatcacaaa atgcatagga aagagaaatc gtatgaatgt aatgagtatg 420
agggcagttt cagtcatagc tcagatctta tcctgcaaca agaagtcctc accagacaga 480
aagccctttga ttgtgatgta tgggaaaaga actccagtca gagagcacat ctagtccaac 540
atcagagcat tcataccaaa gagaactcat gaatgtaatg aagatgggaa gatatttatc 600
aaattcaggc ttcattcagc atctgagagt tcacaccagg gagaaatcat gtatgtactg 660
catgtggtaa agccttcagt catagctcag ccattgctca gcatcagata attcacacca 720
gagagaaacc ctctgaatgt gacgaatgaa gaaaagggtat tagtggttaaa ctcttaatcg 780
actcctgcaa atctatacca gtgagaaatc ttacaaatgt attgaatgtg gcaaattttt 840
catgctatta gtattttcat acccttagtca catttgaggaga attcacatgg gaataaaatt 900
ccattgctgc aatgaatgtg aaaaagccat cagtcaaaga aactaccttg tttagtatca 960
aattcacgcc atgcaaaaag attataaatg taataagcat gtatgtgtgt gaggagattc 1020
agtcataacc caacgctcat tcaacatcaa agaatttata cctaagagaa cttatttggg 1080
ttagtaaat ggcagatctt tcaataggag tttactagt cttgtcata tcagaatata 1140
catagtagac aagaatttga tgaacgcaa atggaaaaac tcgacaccac atttcaggct 1200
ttaccaaca tcgaataat ggagagaaaa ttgttgatta tttgtttatg aaattgttaa 1260
tacatagtcc caatctttt cattgcacaa aaatctaggg ttgacttggg aaatgcagtg 1320
acattttctc atggagttcc tttatttaat atgtattcta agtaggtacg tttattttta 1380
cttttttatt ataatttga tattaataag aacagagatg gggctctgct ttgttgccca 1440
ggctggctct gaactcctgg cctcaagcga tcctcccgcc tgcctccca gagtgcctgg 1500
gttacaggcg tgtgtcactg tgctgggcct attttattta tagaactcat ttaagctgtt 1560
tttttttaa tatgccctat aaacattttt atatttttg aaattgggtc ttagtgttca 1620
caacttccat aagatactgc taatgcacca gtattaaaac acatcgacgt aagtagctca 1680
ttagctttt tctgtgttc ttggcccaag ttctttccaa aaccaactct taggcctgct 1740
ctttactagg gatcttatgt cgtattgctt tacagccaca acacttggat tcctgttgat 1800
taacttctcc attctcttaa gcacctttag aagattttaga agtttcctag ttttaagtgt 1860
ttcaccagca agtattccat acctacttga tgtgtctggt ctggtgtctt atttcctaaa 1920
gtgaagcatc tttttttaa aaagaatttg attgacaata tatccagtcc aatataagta 1980
tgaaggattc tctctctga gattgtagca ggcagccaaa cattttcaa tgatgcccac 2040
ggtttttagct gtcttgtgtg catccacagt ctgcaagaa gacatgataa ggacatcagg 2100
gagccaacaa gactccta atgcctcacta cattcatcca gtgcctattc tgcatgccta 2160
agcttagagt tcttttatat acctctacgg ccagcaaaat gctcaggtct gctcttggt 2220
gggtaaacat aaagaagata cacaggccgg gcatgggtgc tcacgcctgt aatcccagca 2280
ctttgggagg ctgaggcgga tggatcacga ggtcaggcag tcgagaccat cctggccaac 2340
atggtgaaac cccgtctcta ctaaaaatac aaaagtttagc cgggtgtggt ggcacgcgcc 2400
tgtaatccca gctactcagg aggctgaggc gggagaactg cttgaacctg ggaggcgagg 2460
gttgcatga gccgagattg caccactgca ctccagcctg ggcgacagag caggactctc 2520
tctcaaaaaa acacaaaaaa acaaaaacaa aaaaccatac acacacacac acacacacaa 2580
atcagcatca taagggaatg tagccttcca acagagatga tgcgtttcgt atgttaatct 2640
cagagacagt atttcaagag agtggcagggt ctgttcctgg taaaatttta accattagga 2700
ttgcagataa atgtttgaat tctgtctctc tctcatcaat ccaggacagt atttgaagt 2760
tgagggtctt gtgtatagtt gtttatccat taccacattt ttgtatttta atagtctaca 2820
ggctatataa aagaacatgg ctttttgact gataaaagt attacagatg ttggtcaag 2880
ttcagggccca catcatata cctaacaaga gttcatgatt ctttaggtaa tgtcaaaaca 2940
ttttgtattt ttcatctta agctttataa cattttgtga gtaagacaaa tgttatttaa 3000
aattcttggt gtcagtcagg caattgaggt tttcatagtt cagtgttata atattcagta 3060
gggacctca acaaatatcat aaaaatatgt tgctcactct ataactctcc tatggctaac 3120

ctctaggata gttctgccac tatattttac ttctttgccca tcagcaagag taggatttca 3180
 tcaaggcaag gtaggaatct aaatgaaatt gatataataa tgaattgatc taaatgtaaa 3240
 agcaaatgaa aaatgcatgt gttttttcct gtcaaacatg tataccctta tgtatagaga 3300
 ccagtagtca cgtatgggtga ctgaaacagg attatgtaat ccctaaaaag cagaatatgt 3360
 aaaaatcaca tgtatgcgtt tggtttagga atgtgctttt gtacttccac ttgaataaag 3420
 gtgtgtttgg tattctgaaa aa 3442

<210> 115

<211> 2384

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23892

<400> 115

atttaagttg aatgcttttg ttcttttcta aagacttata aattgcttgc aataaaataa 60
 tgcaaatgaa aacacatgag ggtaaaataa taaaataaga taaaattat ttaaagcaga 120
 agccgctagt cagggtagt aaataagctt agtggagttc atgaaccac tggaattcca 180
 tgtatatttt tgcatactg ttttatggag gtggctcttc atacggccaa tcaattcatt 240
 gattctgagt gatttgatta tgatttgctt gcctaaaaga ataatgttta gatgattttg 300
 agcatctaag aaaacctgat agttataatt ttgaactggt ttgccttaaa gttcttgaat 360
 ataatttagg aaggtagtgg aagacacaca tatgtgtggg tgtgtacagg gggagtacaa 420
 aaaaaaccac atttttaagt tcagaaaaaa aatcattgca atttgttgta aacagcatgg 480
 actaatgata caggatgatg ttggttgaat tttcaggact agcaatgtaa ctttgcaatg 540
 gatacgtaga tgccattcaa ataagtatt ctgttattta tctgttttt ttaaagtaaa 600
 aatattaaac ataacttagt ttgtataaga aaaaataatt gcaggaggta aatgtaacct 660
 gtctgagata acacacaaaa ctctgatgat tgtattttgg agttaagact atgaagctaa 720
 aaaatgtgtg tgcacataat ttcaaatatt aggcccaagt aattttattt tgcggaactgc 780
 tcattaatta tgggagcact cagtgtttca ggaagtgtta agacttcagg gtttcagcaa 840
 tgaaattgat aaggctcttc cctagatcta agaagagaca gacaataaac attcaaaagc 900
 aagaacataa gatactgata aattctaaga agaaaacca gtaggatgat atacaggggt 960
 gtgactagga ggtagagga ggttgctctg aggaggtgat gtttatgcaa atctgaatga 1020
 taggaagccc agcaagagat ctgggagcag agccttccag ggaaaggga ggacctgtgc 1080
 aaaaccccag aggcgaagtc catctaggct tgctcaaaga caagaaagag gacaagaaca 1140
 ttaagtgtgg ggagagtggc aagaggcaag atcatcaggc aagggcgcct cagacaagac 1200
 cacgcccaagg ggagagcaca gggcagagca ggactgtgtg gaaattccaa cgtgaatgac 1260
 ttccaaaatc aggcacagag ctctctcccc agcctgacct cttctgggtgc ttaactaact 1320
 tgttagcaaa actccttggg gcacagcact gagtctcca gccaggctgc ccctttgtat 1380
 tgacatggca gggatacagg aggcacgaga gactgtaact ttctagagtt agaattgtctc 1440
 tagtaactct agagacattt tagtgctaac ttacaattga tctggcaaag aaagataggc 1500
 agagctatta aagtgttcaa tttccttcca gagagattct tccattttct ctattacaa 1560
 aaccagaaga tcagctgtgt ggggccatca gctcccagcc taaggctcta taacctgaag 1620
 cttgaaggca atcagtacct ctgctttata attgatcact ttgaggagcc aaaggaaaga 1680
 gtgaaagatt gggactgctt tgagtggaga tggcactgaa ctggttgtaa taactacaaa 1740

tgcaatttaa agtaaaagca tgagtatata aattgaaagg gcaggtggac agaaagaaga 1800
 gactgactcc tagacaggtg ctgagaaagc agtgtaatta aaaagataag gaagggaag 1860
 gagctacaac atataccaca cacacacaca cacacacgtt atcagacatt 1920
 caaaaaatta gatcttagac tccacaatac aaatcccaga ggacaatgga ttacagtgtt 1980
 gacaggggag aaatattgtc ataaaatcat tgcatactta gttatgtttt cattgttaaa 2040
 gaaataaaca gaccattttg aggtagttaa acctcagaga agaataagcat gtatttactc 2100
 ttcttgaaat ctatgttggc tttatgcccc agctgagata ggaatcaaag gtgaggttga 2160
 aaataaatag ggataatata aaccgtccac cagatttgtt taaatctaaa gaatcgttca 2220
 gtattttatt gtatctcact gtatgtgaaa agaaacaagt ttcaccaaac aatacttagc 2280
 cttattttgt atatgcagtg cattataata ttttctattt tgttctgtct cttttttgt 2340
 tcatgcttga cacaaaacat taaattggtt ttgcaacct aaaa 2384

<210> 116

<211> 2971

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23956

<400> 116

atccagataa tatttatata atgaatttct aatgggagac ctcatgctag attctgagga 60
 tttaaaaaaa taagttaaaa catagtttctt tgtttttcca tggagaaaga attactctc 120
 cctgactgag gcttcagttc catttcaaaa agacataacc tttaaaatca ttggttaact 180
 ctttgtcaat gtccctaact tacttaatca attgcacttc aatcgtgggtt ctctctgatt 240
 gtttgcttac ttttttccaa ggtattgaag tgtaaaatca cacatttctg tcttcattga 300
 tgctactata tatctatata tcagcttggc caaaactttc tctgaactct gctacagtct 360
 aacactcttg ctatgtaact ctcttctctt atccttctag gtgtaggagg tcaggcctgt 420
 atccaatgtc tattcctgtt ttctctctct tatacttcac aagcgtttcc tctaataatt 480
 tcctctaggt ttaatcctgt tttgggatct gactcttgaa gaaccaaata taaccaaata 540
 ttcactctga aaagtgaaca aatataaaat gcatttcagt tcatagccaa cacataaata 600
 atctctgctc tactgcctac tccctctttt tctcaagtct caactagctt caaaataatt 660
 tttaaaaagt cagcctctc agctctgtga attctgttac atgccagtct cctccattta 720
 cagccgaatt gtaaagatta acttttactt aaaaacctca agttcagtgt tgctatatcc 780
 ctggggcagc tactcacttg tattcatgtg atggtaggaa gaaggtgaag aaagatactc 840
 cagagagcta aatgcatata ttcctaggtg catctagaca cctaggaata atctggttta 900
 atttgtttta atgtacagt gaacaaggct aggagaaaat ccagaggcta tacttcatta 960
 gtatgtgctg attacctcca atgaagtact tatacccacc tgagtttgcc agtcgtttac 1020
 ttcttctttc caatagattg ggagtttcta aaggatacat tgggtctatt gtatctgtaa 1080
 ttctagatct taatgcattg ataaagagtt caattaatac tagttgaaag aaataaaaga 1140
 ctaaaacaga aagacggaaa aaaggaagca cagaagtata gttttgtgat aaaaagagga 1200
 catagaagaa tgctaaagag tgatagttcc aaaggagata taaagataag atttttcagt 1260
 ggaagaggtt atagatgttt aagggtaaat agagaagatt ttctggtgga aacagaactt 1320
 aacccaaatt ttgtcggaat agtaagactg ctataaagga tacacaagat ggaaggctct 1380
 tcaggcaagg cagagaccga agactcatat gtaaattgca aacttaaaaa caacaatagc 1440

aacaatagtc aagacctgac acaacagaag aattatattg tgcaatacaa atctttgttt 1500
tgataaggat actaaaatta tcttggccaa agtgccaacc aagcaagcag taccagcagg 1560
ggagcataac ctttcatat tcttagatac agatttgta tttgtctgtt ttttatttt 1620
ctctgaaaag gtgatctact cagacggttt agaacctgca tatgcatggg gcaggtggat 1680
gataatctct ccctaaccat ttggattagc tgaatcaaca cggatattca aaagactgaa 1740
gaggttgtgg ccagatcact ttcaaataga attctacaat gttaaaaaga attcctttca 1800
ctgtgaattt gagaaaagac aaaacagtct ctgtttgtac acttgcaaact gacagaaaag 1860
ctgttacaag cttcctgtca tttttgaaa gagtgttagc attgggagag aagaaaattt 1920
gggatgtga aggaaaaatt ctcttggttag aacagaaata atattttcaa aatcacttaa 1980
gaaagataaa ataataaaga tgccaggact ttgaaattac atttctaaat atttggtatg 2040
cttgagaaca gtgagttaga ttgctagaat ctgacctgc tacatctcaa tattaaagta 2100
tgagaaaaaa atcaaagaaa tccctttcac taatattgat gttcttacac ctgatataac 2160
ttaaatattt ttcctagtag atgttgactt gaggcctttc tatcaatgca gccacataac 2220
tgtgttgta cacaggctat agaaactaac agattattat aattattatt gattattaat 2280
ttatagttag ccctcaaaaa taccaatatc ttagtttgtt ctggagctc acaaaaaaa 2340
tttaatttgt tttctatatg acagtgttta aatatttcaa gagagtatgt gccatctaag 2400
tctttcttc tttaggcaga acatacatcc tctaattct aataacactt gaattgataa 2460
ccttctattt attattagat ttttaaagca gcactcccag ccccttcaag ttaaaacaat 2520
tctccaggta aattctggtc aatacagtat aaaaagtaaa gttcttttc tggactcaaa 2580
attctataaa ctctttatgg acagcttgat ttgtaatga gcttaataaa cttagaaaat 2640
ccatttaaat cctatactta ataaataaaa caaagcaaaa catgaattgc tgttcagcta 2700
gcttttcctc acctgtacat ttgtaatgat atttttctca tccacatggg ggccttcata 2760
tttattctta ctatcatttt taattttctt tttctgtgtt gtatactaaa acacatctga 2820
acaatgattc ctggccctat ttagtgaatt ggaagcaaat acagttttca tcaacttgta 2880
cagctgaatt ccatgaacaa tttcagggat gcagtttgca ggattagttg aagaggagaa 2940
aacctggagg caaaagtaaa ctctttaaaa a 2971

<210> 117

<211> 1745

<212> DNA

<213> Homo sapiens

<220>

<223> nbla20365

<400> 117

ctttccctca ttcaccacct tccagggttt catagaaaat aacttgttac aaaatcagtt 60
caattctaata gtggacatag tggcatgttc ataattagac ccatataggg gacactgagc 120
tttaaatcgt tgattctaaa ctctatacat taaaaaaatt cagcccaggc ccctcaaagc 180
ctgagaaaaat ttaatttgct ctttaatttaa tgttccaaaa ctactcttg gaaaaatgcc 240
tgttgaaaaa ctacagggtg gtcacatgtg ggggctgtct ccgtgacact caggattcca 300
gtcagaacct aatcctcata tctattgcct acaaaaatag accaagaatg ttgtgctct 360
tttataatcc tttaaatatt taacattcaa gtittctttg tcttaaattc agcctcttc 420
taaaagcaaa aaagaaaaaa aaaacctcac agaattgtgt tgagatccac cgctcacacg 480
ccgtacacca cccagtggct tcattctggc ttagccgcag aggcaagaaa gggacccac 540

ttgctcccat gccacctca agaaaaaaca taaaacaatt ttttttaaaa aagaaaagaa 600
 atctacctca gttgacagga ttccaccttt agggtttctt caacttttaa gtcttacctg 660
 ttgagtgtaa cttttgtagc atcttgcttt tccaagcaag ctagtgaggc atgacagagc 720
 agaagtctgt aaatgtccct gtgatggacc tctttctagc atgttgacgt tttattttta 780
 ataaattggt aagtgaatg aacgtaaagg taattgtgta cgttttagac atgacaatga 840
 aaatttaaaa tgtagcttcc atacttgtgc ataattccaa agtattttat tttttatcaa 900
 tcagtgttaa atagcttttt gtacaggctt caatccattt ttcgaagtgt gctgtttttt 960
 aatgaaagta actataatct tttcacatcc catggaactg ccgtttacac attgcaactt 1020
 tttaaactta accatatttt tcaaaattaa cgttttttga gggagaaaaa tccccgcttg 1080
 ctaaagtata ctaaaccgtt gtttgggctc ttataattag gtcctgagat tttataaaaa 1140
 tttagtctgt agcttttttag gttcttctact agagttgggt gtacataaaa ataataaaga 1200
 atataaagta tcccaaaatt cttttaaagt ctggattttt ccgctaatat gtactttaga 1260
 gaatattttg ttcatgcata cttccacgtt aaattgaaaa tgtcttcagc ttctcttggt 1320
 aaatgtgaac catttgtttt ttattgtgct tgggggagag ggtattttta tataattttt 1380
 gcctaaatca agaagtcccc tctgaatgtt aattttttaa tgcataaata tgatgaacga 1440
 tatacttga aagttagatt gcaatatgct taaacttaag tggatattca aaaacgagaa 1500
 aattctggaa tttgtcattt gaagctccat aagagaaatt gataggactt cgtttttgat 1560
 cagtctgaat agataccaat gtcattgtgt gggaattttt ttttaactgt ttatgtatta 1620
 ttttgatcca tttttctgtg gcatttggtg caataaaact tttgaattta tcttgaacat 1680
 tttctgggtg ctgcatgcga tttgttatag ttaataaaat gtagaggctt catttcta 1740
 aaaaa 1745

<210> 118

<211> 929

<212> DNA

<213> Home sapiens

<220>

<223> nbla20378

<400> 118

gtaacaaatt gcaagaaaaa caacttaatc ttccagtac taagtaagaa aaactgttgt 60
 cactattaaa catgtaggaa attgataatt attacaacaa aagcaatact ctaccctaaa 120
 tctagacaaa tcaactggaca gatgataaga ttttcagctt tctcctttta agagctgtgc 180
 caatgtacag atttttttgt aaacatgcaa agggaagggt acaaactcct taaactttta 240
 aaaaccataa atccttttct tgctacttat attctatgcc aattataata ttccaagact 300
 taccttttct cagaatgctt acatatggaa aggtttattt ataaatattt gataggtaaa 360
 tattccatat gtattttcta gcccgctctt ctctgtccct cctcaaata acttcattac 420
 cctctccttt ttaaacgaaa tatcttgata ataagaaaac aaaatcattt ttttgtgaaa 480
 taatacatat ggacaaaaaa tacaagtgtt attttacttc tggttcatta aaatattgtg 540
 tttagtgtga ttttttctc ctttatcttc agaacataa aagaaattgt ttattttcct 600
 aaaggataaa attggatata gcctcttag tagacactat cacagttctg ttgtttgctg 660
 tgttcatttg cttaatgaat tgcgtgagaa cagtcactgt aatgaaatat gtgtgctggg 720
 ggtgggggga agggcatggg aaatgtttta tgaaaaaag ttataagcct aatactatga 780
 agtaacatct aatgcagttc tttttaagtg caatatattt atttctgcta gaaatatatt 840

atcaacctta tgtaatatatt gaagcattac atattatttg taaacagctt aaaattatat 900
attaccccaa ttgtacataa gtacaaaaa 929

<210> 119

<211> 1972

<212> DNA

<213> Homo sapiens

<220>

<223> nb1a20511

<400> 119

atgtacacgt ctctcaaaact atgaagagaa gatttgggag gagtatgaga aaatcctcaa 60
taccaaaacta gcagagcaat acgagtcgtt tgtgaaattc acacatgagc agattatgcg 120
accatgtggg acaagcccaa caaactatgt gtcttgaagc ttttggttgc agatctcggg 180
accaggtttg acctcaaggc atgggttgcta tacatTTTT gcaactgttt gatatacat 240
ttcagctcca actttgcac ctagaacaat tccaacgttt ctgcagggtc attttatacg 300
acttgaaaga ccttaaaact ttctgggtgc cacaggata tctttctttt ctgttcatcc 360
agtaaatagt cataccctac tgtgacagat ttttccaaac aaaaatacct ggagcagcag 420
tgtagcaaaa tatgccttca gtggcactca acaaatggag tttccccaag cacagttctg 480
taagaagtgt gtgtgagagt gtgtatgtgt ctgtacatgt acttttagatt atggtttgta 540
ttgtgcaaat ttttttgatc ttggggattc tggctgtgga ttgatgcag aaaattatgg 600
ttaaaaaacta tgggtctacag aagatactta atgctttgtg actatataaa ttgtaacagt 660
ggattgtttt atgtgtaggt attattgtta aatatgggga ctgttcacca ggcacaaaat 720
aggaatcata aattaggatg caggctgggt atggtggctc atgcctgtaa tcccagcact 780
ttgggaggag gccgagctgg gcggatcgct tgaggagagt tcgtgatcag cctggccaac 840
gtggagaaac cctgtcccta ctaaaaatac aaaaattagg tggacatggt ggcgagcacc 900
tgtaatccca gcttctcggg aggcctgaggc aggagaatca ctgaaccag ggaggcagag 960
gttgacagtga gccagattg tgccactgca ctctagcctc ggtgacagag taagattcca 1020
tctcaagaa aaaaaaaaaa aaagtgaaga tggccattgg ctgtggttat gacaatacag 1080
tgaaagtctg ttgtcttaga tatacaata catagtga aattagaaca aactggagac 1140
tggcctttga cacatggact ctgcctagct gtgttagaaa aatatttaac tccaagcctt 1200
aaaattccca aatggagttg gtgcttacct cattcacaca atccaagagt tcaactgggtc 1260
ctgaacctct aaagggaataa ggtctccctt ggagcaggag catcagagtt tgctcggggg 1320
cataaggtag gtgagtgtg ggccgaggca ggctccctg gcactgctag ttgcaggagc 1380
actttacctt tgtatcagtt actaaaaa aaatttgaat ccttttgtca gggtcccca 1440
aattattttg aggtagccat gttaagtgc ttgagctttt gtgttgcaa acccctgccc 1500
aaggttgcta atagggtatt ctgcccctt tttccacagc tgaggcacag aaagtagcct 1560
cttttgtag gagttgggag ttaagtatac attattttt ttacatgat ttgttcagga 1620
ccacatttta caagatacct tgtttccttt attattgttt ctggaaagtc ctattcatat 1680
tattttattt gaatatagaa tatagttttt ttaaatgagg gctattttt aaaaattctg 1740
agcttaattc aaatttatgc caataccttc ccaataagg taatagtcaa agacagatgt 1800
tctgatcaaa tggcttagag atagtcctgg aatattcata ttcaaagatt ccttattaat 1860
gaatgtcttt aacttaaatc taccacaataa ttgcaacatg gttctttgta cattttcatt 1920
atatggtgtt aacaagcttc actgcaaaaa aataaattac ttaagttaaa aa 1972

<210> 120
<211> 1806
<212> DNA
<213> Homo sapiens

<220>
<223> nbla21039

<400> 120
ttggagcggg ttctgaattt gttgtttgtt taattttttt ataccctcta ttccttaacc 60
atgctgttaa ttattgccat tttatcattt gctttactgt gtgttaagtt tcaatggggg 120
taaagtgtac tcttcttttt taaatatatt tggctatatt tttcatgta ttctcgaga 180
taagcttcag ttatgttttg gtcacattcc aaaagaaatt ctattgccat tttgtttgga 240
attgctttta caatatagac taatttgggg agaattacca actttgtaat attaaatttc 300
ttattcagga acttgatcat gtgttaaggt actgaagaca atctccaaat gttctttagt 360
aattttgtat gttttgcata tttttattaa ttgtattgtt agatattaca tttctttgtt 420
gcatttgaat gggatcattt ttccatcatt ttttattagt ggctactcct tctgggggtca 480
agctatttat ttttgtgttt gataactttt ttgaactcct tcattaatac tccctagtgt 540
attctcttct aagtagccaa tcattcttaa gtataattaa tgggtatttt tctctcttcc 600
tttataatat ttataacctc tgtgttaaat aaatgatggt aataactttg cccttatttc 660
tgatttgtta ggtatgccat taaattttac cagcttttaa atgttagctc ttagactgaa 720
atacaggtct ttatcatggt aaagatgtgg tttgatggtt caaatatact aagcatttta 780
ttagaagttg ttcaattata ttaagcatac tctaggcaac tagaaatgat catgtgattt 840
tacttctctg gcctattatc acaataaatt atgttagtag tttctcaata ctggattatt 900
tctgcatgag atgtatcctg ttaataaatg gtgtgttttc cccttttttt cttgtaacaa 960
tgttgaactc aatttcttac attttatttg ggattgcatt tatatttatg aataagattg 1020
ggttgtagtt ttacattttt gaattctacc tttatcagct taaaaacctt gattggtaca 1080
tagcataatga attgcctatt ctttgggggc tggagaaact caccataac attgtttagg 1140
cctcaatctc ttttaaggag gatgagtaga agacaattct ctgaaaaact aaaaaacctt 1200
tttctatggt tttactgtca cttcttgagt atcaatttaa aaaatcatat ttttaaagaa 1260
aaacatgcat tttcagagaa ttttaaaatt tgttgtctat atataattat aattaaaaat 1320
atttttctct gtatctctgg ttattgcttc tttctcattt ctggtccttt tagttacttt 1380
tttcttttct tttattagac ttgccagtct ttttaaggaa ccagcacttg agtatttcat 1440
cagttctatt ttttctattt gttataatat taatataact tttcatcttt aattccttcc 1500
ttatttttaa tgtttatttt gttgctttat gaatgttttg tactaattga tggcttagtt 1560
catttatttt cattttttaa ttttaataata ggacacgtaa gactataact ttgcctttgg 1620
gcacagcttt gactgcatct caaaagtttt ggtatgtagt ctcttaattg ttgctattta 1680
aaaataatgg attatattac tgtttttatt ttatttttga tgtattattt aggatagtat 1740
tgtgaggttt ttgttatttg ttaatcctac tttcttttta ataaagaata aacttattaa 1800
taaaaa 1806

<210> 121
<211> 2614

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21107

<400> 121

gggtccagat ttttccctt tataagctgt tttcacaggc actgctgttt gtttttctg 60
aaccagtgt ttcattctt ctgtgtccag aaagttactt tatctgtgat cagttctgga 120
gtaaaggatg tcatgtcata gtctgtgctc ttgccacgt tggaggagct cctagcataa 180
tttaagctta atgtcaaaat gcttgggggtt gcaatctagg ttctgccatt tgctgggtgt 240
gctgctttgg gtagagcagt tgtataattc aatgagatat tgaatggcta gcgctcgaca 300
tatagtaata actcagtcaa aataattaat attttttatt atctggaagg gtgcagtggc 360
tcattcctat aatcccagta ctttgagct gaggcagggt gatcactga ggtcagaagt 420
tcaagaccag cctggccaac acggtgaaac cccatctctg ctaataatac aaaaattagc 480
cggatgtggt ggcgtgtacc tgtagtccta gccactcagg aggctgaggc aagagaattg 540
cttgaacctg ggaggcggag gttgcagtga gccaaagactc tctagactgc actctagact 600
gggcaacaga gtgagattca atctcaaaat aaattaataa ataaataata aaataaaaata 660
aaataattag tattttctag cccgccactt acccagttag gtatcccagg actttgttag 720
tagcaagtag catacaagaa aacaacagca gcaacaacag agttctgtga gcacacgagt 780
taggaaaaca tcaggatgaa aagctcacat agactccttt atggcaggac ttagtctcta 840
aaatgttaca taatgtgttt ttagagaag agtggataa acgctaatta ccaactatt 900
tggccttaga acccctttt ttttaggggtg gcattggtaga gagagtgatg ttccttagaa 960
tcccattagg aaagaaattc cagggtgggtc cacttccctt aggaattcta aggtattctg 1020
aggagcatca cgtctctat cctgccatcc ttgaaaacag tatttgaggc caggcacagt 1080
ggctcatacc tgcagtccca ggactttggg aggccgagg agacagatta cttgagggtca 1140
ggagtctgag accagcctgg ccaatatggt gaaacctgt ttctactaaa aatacaaaaa 1200
ttctctgggt gcggtggcac atgtctgtaa tcccagctac ttgggggggt tagccaggag 1260
agttgcttga acttgggagg tggaggttgc agtgagccaa aatcatgcca ctgcacttca 1320
gcctgggcag cagagcaaga ctctgtcaat caatgtatca ataaggtctt gctaaagatg 1380
ataaagcaaa ttagatgttg aacaacgtta gaagtgcagg ttcctctctg ctctctctg 1440
cacgtgcact tctcaaagtc tgatctttga tacacctctg tcagcatcac ctggggaggg 1500
gatgggtagg aacacagatc acagacacag ggcatcagaa tctcctgtct cagagcccag 1560
gaatctgcat ggttgcaagt cttctgggta attttctagt aagctaaatt ccggaacca 1620
ctggactgga ccacctct ctgtagctat attgtgtggg cagaactgag gttgtgtctc 1680
cttccaaaaa ctctggtgac tttggaaaaa tggttgatga tggctcctca ccacctctct 1740
gcctgcccc aagacctgga ggaggtgtgt atcttgggag aatgctggag gccttccctg 1800
gctttcacag gccagcccgt catgcagagt ctctccagag accgctcctt gccctccatg 1860
gtcactgttg gagctatgtg tccctacgat ccctggtaat gtcctccag ggaaacctgt 1920
gtgtgcgggt caggggagat tagttcgaaa tggagagaca cgtacttggg gccttgccaa 1980
gtcgtcttgg agagagcatg gcgatgcttc ggtttccatg gaaaccagg gactgtaagc 2040
tcaccttgg cccttgaaac agcctccagc ttctgggaac aactgcaagg ctgctgctta 2100
ctatgagagg ggagagcagc cacagagaag agaaaaccaa ctgctgattg gaaaacaggc 2160
tcagttgtct gttttgaact gcaagaaaag ttagaagagt gtcctaatcc aaagatacag 2220
aaggtcagat gtggggcagg caactagccc actgtcccga tctgtattaa gagacaccac 2280
catcaagggt gctccctct ctaggttttc tactcaaaaa gcctttttt gctttttgag 2340

tcgaaattta tgaacatcac aggettagac agtttttttg actgttcctt tattccctgc 2400
 taaaatcgat attccatgat atccagacat tgccatgctg gcttcaattc ccactttgtg 2460
 tgtgttcttc ctctttctca tatgtgagca gctgtggata gcaccgcgcc ccagttttg 2520
 taaagtaagc tttccaaagt ggaaggatca ctgacagggc aggagttaa gaccaggctg 2580
 ggcatcctag ggagaatcct gtctcttcca aaaa 2614

<210> 122

<211> 1779

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21367

<400> 122

aaaaaaaaagt ttccaggttc ctgtgtcttc ccgttgagtt gctcgtcca cggcatggag 60
 gactaggaat caggagtcag tggccgtatg ctggaggctg gagccgcggg agcgcggtc 120
 gcctcgtgc ggttgttggc agcgacggag ataggagtgc ggctggagcg atgtgccagg 180
 tgggtgccagt gccagctaata cactccctg ttggcagcac cgtgaacact gtgcacctgt 240
 cttcagatgg cacttaaagc agagaagcct gctgtgtggc tgtgggagtc atcagagagg 300
 tggcagtggg ggtttgttat cgacccaatc attacatcgc taccgaaggc tcatctggaa 360
 cttctggact caagtgtatc gcctgccttg gcctcccaaa gtgctgagat tatagggatc 420
 atggcccaag taacaatgtc cgccctggcc gttgaagatg aggagtcctc agcaggatgg 480
 tgggtgacatt cctcatgtca gctcttgagt ccatgatggg gtttcacaat gttggtgagg 540
 cttgtcttca actgctgagc tcaagtgate tgtctgcctt ggactcccaa attgctggga 600
 ttgcaggatt gttttagagt gtggatagtg aagcaagaat gtaogtcat ttactcaagg 660
 tgttgaagaa gaagaaaagg ttgcagagat gcattaaata aagtctaca cccagggaaa 720
 gctttacaaa aaccacaga gtaactgta ccatatgaga agatgctaca agaccagtca 780
 gctttgatag tacaggggct tccagaaggt gttgccttta aacaccctga gaattactat 840
 cttgcaacc cgaatggat tttggagaac acagccggga tttcattcat tattaagaga 900
 gatgggggtt cctcatattg tccaggctgg tgtcacactc cttggctcaa gcaatccacc 960
 tgcctaggct tccaaagtg cttggattat aggcatttcc ctggaagtgg cagctgtgac 1020
 agtaaaggaa gaatcagaag atcctgatta tgatttatat cacattcaag gagccagctg 1080
 aggaggtgtc atgcaactg ctgccccagc cctccccttc taaggaaactc ccacacctgc 1140
 cctgtcttcc tgctacagtc tctgagaaaa gccctttcat ctgtcaagaa ctacaaaagt 1200
 cattctttaa gcagtgttaa ataaacaatg aaacagacac aaagttaaag ttacctgatc 1260
 caaaaaggag tgaagcctag accccagccc actgactcag tctctaagtc ccctcactca 1320
 aatcttcaat caacagtggg gatggctgtg agctcttctg attccagatg acaatactcc 1380
 tgcctttaat tcttgatat gtttaattat gtaagtaa ttaataataa aatcattgca 1440
 ttagagttcg tggtttttat acaagattca gtgtgagatc aatgtcatac ttccaatttg 1500
 tcacacttat agagaactga gaagagtcac attattttaa atcttagcaa atgtgcataa 1560
 ttcttttga taattttaa gtgataggat tggatcacat atgatgcaat ttcttgggtc 1620
 tcttttgtt ttagatgtt ttatctctcg tattgtggat ctcatattta tgtgaataat 1680
 tatcagaaga ttttatttct attatgcata ttagtataa aatgatcata cagtgaagag 1740
 tgtgtaaaat caaaataaaa tgccattcat caccaaaaa 1779

<210> 123

<211> 2942

<212> DNA

<213> Homo sapiens

<220>

<223> nb1a21790

<400> 123

gatatatttgt tacaagatta tcctagtttt tagagagctc aataatacta acacctcatg 60
tatttcaggc tgcttcaggt ctaattcaac cataaattta aatggttgaa attctgatta 120
attgacaagt taagtiggga ggtaaggaac aactaggata ccatctacta tgggtgtgtag 180
gcaagtgtc cagattgtga ttcttttgag tatctggggt cgtagggaat aatcactgtg 240
cctgggtaag tcaggaagag atcataaatg acaaagaagt cacccttgta aggattgagt 300
atgtattagc agagatggat tcatctgaaa atggtactag atggtgggtg cctgcatcag 360
tattatttca gtatatittc acatcaagat agttgagtaa gaaatgtcat gtgattaaat 420
ccaagaggta ttatttgacc tgtaatttgc cagacactgc taatcccttg tgctacaaaa 480
atgagtaaga accacttatt ggtgcacaca gtctgtggaa gaaacagaac tgcaaacctg 540
tcattctaaa ataataggtta ctaagggact gaatcagtag aagttcttct tgtgtacacc 600
agagaaaagt gacaattgag ttgatgcttg aaaagtgaca attgagttga tgcttgaaaa 660
gtgacataat ggaaaagtga caattttgaa gaatcactaa attggggagt aaatggaaag 720
agaaggatta ataatagctt tagtgaaaaa agaggataaa gtgaagttga ttigtattatg 780
attttagata gggataggag ccaatagaga acaaagatt ggaaatccag agaagagagt 840
aattggtaat gcagtgttca acaggagtca ggaggagtg gaattaggag tactggtttg 900
aagaagagag gaattatctt ctgagactgg agagaagaga gtaaatattt cattctcaa 960
aactccttgg gataattggg ttttttcttg tgcccacttt ttaagagtaa cacttgaagt 1020
aaatcttttt gtttagtaag gcaactaaggg aaaagtcaaa ttatgaacct tcagaggaaa 1080
tagaatgatg acctaactct gcatattctt aggggtagag aagatgaagt ccatgtcaca 1140
gcttgacagt ttgtcaagac ggtggaagcc ttcagagatg aagttggatc ccttcagga 1200
ggttgtattg gaaagcagta gtgtggacga attgcgagag aagcttagtg aaatcagtgg 1260
gattcctttg gatgatattg aatttgctaa gggtagagga acatttcctt gtgatatttc 1320
tgtccttgat attcatcagg atttagactg gaatcctaaa gtttctacct tgaatgtctg 1380
gcctctttat atctgtgatg atggtgcggt catattttat agggataaaa cagaagaatt 1440
aatggaattg acagatgagc aaagaaatga actgatgaaa aaagaaagca gtcgactcca 1500
gaagactgga catcgtgtaa catactcacc tcgtaaagag aaagcactaa aaatatatct 1560
ggatggagca ccaaataaag atctgactca agactgactc tgatagtgtg gcattttccc 1620
tgggggagtt ttggttttaa ttagatggtt cactaccact gggtagtgcc attttggccg 1680
gacatggttg gggtaaccca gtgacaccag cactgattgg actgccctac accaatcaga 1740
agctcagtgc ccaatgggac actgttttga ctcggaatca tgtgtgtcac tatagtcaaa 1800
tgtactgtaa agtgaaaagg gatgtgcaaa aaaataaaaa aaacaacaa aaaaagctaa 1860
ccttctatta gaaaagggga caggggaatg agtaacttc ttttattgcg gacaaatgtg 1920
cacatagccg ctagtaaaac tagcctcaaa caggatgtc atagcttaat aataaaagct 1980
gtgcaaaggc catgaatgaa tgaattttct gtttatttca ctgatgcaca cattacctca 2040
ttgacaattc agaagtaaat ccaacgtgtg ttgactcttg gaaagcagca aaaacaggag 2100

ctgaagaaaa gaaattcttg gaaccagccg taaccagta aggaattgtg aagttgtgtt 2160
 tttattttgt ttcatTTTTt gcagagtatt aagaacatta ttctggaaca tcagaacgtt 2220
 tcccttagac cgatcccagc aggtggcagc tcagattgct gcagtgttgt aattataact 2280
 gatigtactt aagttatgga ttagagaaat atgtttcatt catttattca gcatgtaaat 2340
 aaaattgatc ctgttgagtt atcataattg cagttcaact atctgccatg attattcttt 2400
 tcacgtatca ttcatctgtt acatttgtgt acattgagaa gtatagcaat ctatgtaaat 2460

gtaatcctca gtgaggttcc tcagtgetag gtcccatagg attgtcgttg cccttgtaa 2520
 tgaggtttct ctgttcagcg gcttcaattt tttctcttt gtacatctag tttgaagat 2580
 ttacttcaag ttgaaatctt ctagaatgct tgtaagtcca gttttaattt ttagagtcaa 2640
 tttgtagtta catgtagttt aacttttggg aaacgtctta acattgttct gaataaactt 2700
 gctaagtagg tcaggtcatg gtacagactg atgcagtcaa catgatttca ttgcagagtt 2760
 tattagtatc agcaagtttt tgctttgcta aataaaagta cccaatgaac acaattctac 2820
 ataaattttg acataccatc taatttataa aaatcaataa aaaaggtttt ggtaaaactt 2880
 tttcatgccca gatgctgttt acaacaatga acatgccaat aaaacatttg ttcatcaaa 2940
 aa 2942

<210> 124

<211> 1679

<212> DNA

<213> Homo sapiens

<220>

<223> nb1a22253

<400> 124

ccgtttgatg ttcaggagac tggcgaaggc tcagcaggag cttcaggagc cccagagaag 60
 gtccctgaaa atgatggcta catggagccc tatgaggctc aaaagatgat ggccgagatc 120
 cggggctcca aggagacagc aactcagccc ttgcctctgt atgacacacc ctatgagcca 180
 gaggaggatg gggccacccc ggaaggtgag gggggccctt ggccccggga gtccgcctg 240
 ttagaggatg atgagaggcc cctgaggag tatgaccagc cctgggagtg gaagaaggag 300
 cggatttcca aagcctttgc agttgacatt aaggtcatca aagacctacc ttggcctcca 360
 cctgtgggac agctggacag cagcccctcc ctgcctgatg gggacaggga catctccggt 420
 ccagcctcgc cctccctga gccagcctg gaggacagca gcgcccagtt tgaaggaccg 480
 gagaagagct gcctgtcacc tggccgggag gagaaggggc ggctacctcc ccgactctct 540
 gcagggaacc ccaagtcagc caaaccccta agcatggagc ccagcagccc cctgggggag 600
 tggacagatc cagcactgcc tctggaaaac caggtcttgt atcacggggc catcagccga 660
 accgacgccg agaacctgct cgggctgtgc aaagaggcca gctaccttgt gcgcaacagt 720
 gagaccagca agaattgactt ctccctctcc ctcaagagca gccagggatt catgcacatg 780
 aagctgtccc gaaccaagga acacaaatat gtgtgggccc agaacagccc gcccttcagc 840
 agcgtccctg aaattgtgca ccactatgcc agccgcaagc taccatttaa gggagccgaa 900
 cacatgtccc tgcctaccc tgtggccatc cggactcttt agatgtgaag ccagggcact 960
 gtgatagacc tgtaccagc cctgtgccc tcacctggct gagggtgtg gctcttgcca 1020
 gggacgtgat ctttcaaac tttcttctcc tgggatccag tagaagctgg agattcctta 1080
 atttattcta aagggaagg gctcctgggg ctttgagta aggggttgc tggagctggg 1140

gaaagaggaa tccctggaga gaaaggatag cccctggagg aagggggttc cagagctact 1200
gggatggtag ggagtttcag actggcagct cgggtcctt tccgacctta gggcagaggt 1260
ggtgacctcc accaccacca ccctctcccc actgggtccg tgcgaggtag tgcagaattc 1320
ggcccccttg ggcgcccttac cacctctctg cctccgtccc cgacttccac cccagaccgt 1380
cggaggggctc cgcccagagt ctggttaagag gtttggggaa gacaggcccc tgggaagcag 1440
ccggcttttg ggggtgggga gagaagggga ggggctcggg cagagggaac tgtgcagtcc 1500
ccaggccgcc cgggtccgg gccagaggca ataaataaac ccgctcctgc cgggcacagc 1560
cgcgcccgc cctccgggcg cgtccccggg ctgacggggg agggagcgga gaagcgagcg 1620
cagattctgc gtataaatca gctctggagc agacacagcc cggctgtgaa aagcaaaaa 1679

<210> 125

<211> 3886

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22355

<400> 125

acaggaagga accagctgat tccatagtct tctgtctgtc ttctcgtcgc agggtagatt 60
ctctgtccct ttctctgtct ctcttctctc tggagccgtg gaggcagctg ggcgtgggtg 120
ccttccccgt gaaagccgc tggcaggag tctacagccc ctccgggac ttgtgtgtg 180
ctggctgccc cagggacctg caggaggccc tgcctgggctt cgactgcag agctccaggg 240
agctgcgtag gtctcaggat tacctgtcct gcgagaggac ccaccttgag gacagtgtgg 300
gcagtatgga agacatcctg gaggagctgc tgcagcaccg ggagcccaag gccctgcagc 360
tgtacctcag gaaggtctg agcaactcac tgcacccctt gggaaagctg ctccggacac 420
tgtatgctgac cttccaggct acctacgcag gtgtcggggc caacaagcac ctgcaggagc 480
tggcccagga ggaggtgaag cagcatgccc aggaactctg ggctgcctac aggggtctgc 540
tgcgagttgc cttagagcgc aagggccagg cctggaggga ggatgaagac acagagacaa 600
ggtgactggc gcaggtctcc ttggggcctg ccgtgtccag ggaggcctca tgcgtctgct 660
cctaggacct cccttgggga aagaggtgct tctggggaag tgctgggcat tcaacttatt 720
gaccaaacat tgtgcattga tcgtttgttg attagaatga cccatgacct ctgttctgtg 780
aggaaccagg gagggggcac tgctacaatg cattgaatgc atctttgttc taaatgtatg 840
atcccaatct catctttcgc atgcagaagg tgagtagctc cccgaggcac cctcctctcc 900
ctgcacacag atggggaaac cgagggtg tagggatgag cctgaggta tacaggagtt 960
aggtgggcat gaaatttgtt tccccagtc cctggagcaa accttacaat ttgcctttag 1020
attctagacc tgaaagtgtt cctgatcaga gaggccttcc tgcactgcc tgcaggagg 1080
caagggaat ggggttagac attaggagg attccccgcc cggagtcta gcacagcaaa 1140
ccaggagggtg gaactgaatc agcctggaat ggctgtgag agctcagctg caagttgctg 1200
gtccatcttg ggccctggtt ttgctttcag tcaaatgggg atccaactcc tgccccacct 1260
gccatcttgg ttgtcaaagt caaaggagg aatgaagtta tgaattgaat tgggcaaatg 1320
atgactgaga acaggcttgg aaaaggtttt ctggggagga ggaggctgga ggccaggaca 1380
ctgtttgttg tggaactagg agctcttga gacgagactc caagtagtaa tcccagacct 1440
cacctgtctc atcccaacct gttccggtct ccccatcagg gacctccagg tgcattgatt 1500
ggtgctgccc ctcatgctgc ccagcttcta ctgagagctc ttcagctct acctgtgct 1560

tcatgagcgg gaggacagct tctacagcca gggcattgcc aacttgagcc tctttcctga 1620
 taccacactg ctcgagttcc tggatgtgca gaagcacttg tggccctca aggacctcac 1680
 gctgacgagc aatcagaggt actccctggc cagggacaag tgtttcctgt cagccaccga 1740
 gtgcctgcag aagatcatga ccacgggtgga cccacgggag aagctggagg tgctggagag 1800
 gacatacggg gaaattgagg gcaccgtgtc gagggtattg ggccgggagt acaagctgcc 1860
 catggacgac ctgctgccac ttctcatcta cgtgggtgtc cgcgcccga ttcagcacct 1920
 gggagccgag atccacctga tccgtgacat gatggacccc aaccacacag gaggcctgta 1980
 tgacttcctg ctacagccc tggagtcctg ttacgagcac atccagaaag aagacatgag 2040
 gctgcaccgc ttacctggcc actggcactc caggagctc tggtagcctg gcctttcctg 2100
 gacagactga agagctgagc agggcactgc cagcctgtcc ctattaccc aaggcaaggg 2160
 gcaggacagg ccctcagaag cagctcttgg aggagatgag cattttgttt tgcacaggaa 2220
 gatgctgtg ctgccctgac tgggatgagg gtgagggtg acgggtgtgg ccctggatgt 2280
 ggtggttttc cttggccac tagcccatct tcaatgaccc ctaaatctgc agcagctcac 2340
 aggttggggg tgaggagtcc ctggctctc ttacgctgag ctttctccc aagtccaga 2400
 gcctctccgg gcctcagtgc tgccatctgt acaatgggtg agtgagtacg ctgtaaagga 2460
 ccttccattc attttctga attccagagt cttttggaa aactgacttt agtctgctgg 2520
 gctgtattga cctctggcag gctcgaagcc tcaactggta tgcagtcaac aggatggggc 2580
 tggagatccg tgaactgcag gccacgtacc catgacgtaa acggcggcac tggagcaagc 2640
 tggggcgggg ggtgggtaaa ccctcactgc cagcaggccc caagtggctt gtaaatcatt 2700
 ctctgtgac gtctgtgggc ctgctgggg acaacagggg cacatgacat ctacctgggc 2760
 cctgaccaat aaaccctcag acccaggacc caggacctg ctgtagttgg ggagcaggag 2820
 tacctttggg aggggaggac tttattttaa cagtggttct agtgtgggac caagagaggc 2880
 aggagctggg tcttggggca gctttattcc tgttgggct cagtttctct tccccacaca 2940
 gtttatcttc cgtcacattg tgccgggtga cgtgcacggt ctccctctgc cctagcagga 3000
 gatgcatgat gacaggcagt gtgatgtgt ctgaaagtgt ccagggcaaa gcgtaggagg 3060
 aggggtggatt tgtgcagggt gcagctctgg agaagaagct ggatcactct tgggtccatt 3120
 ccctaggccc tgagcaagtc aggtccttgg ctctgggtgt ggctcccca aacgaagtac 3180
 tgacttcagc ctgtgagggg aggggtgagg gaggctctgg aaagcccagc cacacctgag 3240
 tccctggcag tagccttggg gcagagggca cccgagagt cccagagatg atgtgggcag 3300
 tgggcagaga gagccttggc gcctctgttt gccaccactt cccaggaag gaggacagc 3360
 atttctctgg ctggttccac taaatgtgcc agcccaaatg cagggcattg gctctggttc 3420
 tgccgggagc ctgtgacacc cccaggaagg gggtggaact gaggaagagc gaggatatgc 3480
 aggcactcat gcttaccggg actggggcag ctactagga ttctatcct tccaatcggc 3540
 atcagccagc tcttgtcccc tgataagtga ggacagcctg accctggcct caaatgcagc 3600
 catccctgag ttcatgcgat gctgacggga cccagcaca cttccctgcc tcctttgaga 3660
 tctgagagcc ctgtctgcag ttcagattca acaaggccct ctgccaccc tctcactagg 3720
 cctcacccaa caccagtga actggagcct ctggctgggc acagtggctc actttgggag 3780
 gctgaggcag gaaggctgct ggaaactgag agttcaagac cagcctgggc aacatagtga 3840
 gaccctgtct ctacaaatac aaaataaaat aattagctgg gaaaaa 3886

<210> 126

<211> 2024

<212> DNA

<213> Homo sapiens

<220>

<223> nb1a22832

<400> 126

agcgcgggca cacggcgggc agagcgccga ggcggtacct tcagcctgca atgagaggaa 60
ccccgggagag ccccggggag ccagcggaaga gcttggctgc tgcgtccagg gctgctgctg 120
ccgcccgggc tgcttgaaac tcctcaaagt tgagagccgg ctagagggtg ccgcccggcg 180
ggagccggag ggaaggaag tcggaagggt caagagtgc agacacggac agacggacgc 240
gcagaccttc ggaaggcact gcgtaggcag cctccccgga gccacgagg ctccccagca 300
ccgttactg gtgggaggct gagccgggtg aaaagacacc gggaagagac tcagaggcga 360
ccataatgtc gttacgtgta cacactctgc ccacctgct tggagccgtc gtcagaccgg 420
gctgcaggga gctgctgtgt ttgctgatga tcacagtgc tgtgggccct ggtgcctctg 480
gggtgtgccc caccgcttgc atctgtgcca ctgacatcgt cagctgcacc aacaaaaacc 540
tgtccaaggt gcctgggaac cttttcagac tgattaagag actggacctg agttataaca 600
gaattgggct tctggattct gaggtgattc cagtatcgtt tgcaaagctg aacaccctaa 660
ttcttcgtca taacaacatc accagcattt ccacgggcag tttttccaca actccaaatt 720
tgaagtgtct tgacttatcg tccaataagc tgaagacggt gaaaaatgct gtattccaag 780
agttgaaggt tctggaagtg cttctgcttt acaacaatca catatcctat ctcgatcctt 840
cagcgtttgg agggctctcc cagttgcaga aactctactt aagtggaaat tttctcacac 900
agtttccgat ggatttgtat gtiggaaggt tcaagctggc agaactgatg tttttagatg 960
tttcttataa ccgaattcct tccatgccaa tgcaccacat aaatttagtg ccaggaaaac 1020
agctgagagg catctacctt catggaaacc catttgtctg tgactgttcc ctgtactcct 1080
tgctggtctt ttggtatcgt aggcacttta gctcagtcat ggattttaag aacgattaca 1140
cctgtcgcct gtggtctgac tccaggcact cgcgtcaggt acttctgctc caggatagct 1200
ttatgaattg ctctgacagc atcatcaatg gttcctttcg tgcgttggc tttattcatg 1260
aggctcaggt cggggaaaga ctgatggtcc actgtgacag caagacaggt aatgcaaata 1320
cggatttcat ctgggtgggt ccagataaca gactgctaga gccggataaa gagatggaaa 1380
acttttacgt gtttcacaat ggaagtctgg ttatagaaag ccctcgtttt gaggatgctg 1440
gagtgtattc ttgtatcgca atgaataagc aacgtctgtt aaatgaaact gtggacgtca 1500
caataaatgt gagcaatttc actgtaagca gatcccatgc tcatgaggca tttaacacag 1560
cttttaccac tcttctgct tgcgtggcca gtatcgtttt ggtacttttg tacctctatc 1620
tgactccatg cccctgcaag tgtaaaacca agagacagaa aaatatgcta caccaaagca 1680
atgccattc atcgattctc agtcctggcc ccgctagtga tgcctccgct gatgaacgga 1740
aggcaggtgc aggtaaaaga gtggtgtttt tggaaccctt gaaggatact gcagcagggc 1800
agaacgggaa agtcaggctc tttcccagcg aggcagtcat agctgagggc atcctaaagt 1860
ccacgagggg gaaatctgac tcagattcag tcaattcagt gttttctgac acacctttg 1920
tggcgtccac ttaatttgct cctatatattg tatgatgtca taatttaatc tgttcatatt 1980
taactttgtg tgtggtctgc aaaataaaca gcaggacaga aaaa 2024

<210> 127

<211> 2106

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23755

<400> 127

tttctctgat caaaattgtg gctgttttcc ttatgaacca taatataatc atttgtgtga 60
tgtacattgt gccatttttg atgactaaat gtctatattt ctgccattcc tgtaagagag 120
ggagtttttt actgatagta gcaaagtgtc acttcagtca aacttgggtg ttcagtggta 180
aaccatatag tatttagact ggtaaaaata gtttgcacac aggaatagcc tctgattttt 240
agctctcttg taatccaagt atcattgttc atggaattct ctaggtcatt tttattgtgt 300
tgttctaaca agacagatta ttgctacaac aatagttaca agatatttct aaaatatect 360
ttgattttta ctctaagtat ggtagagtaa gaggctaaac aagaagctgt ttccttgaag 420
acattgcttt cagtcacat acatgtctaa ataatttagc ttatcattca tictatgtag 480
gaatgagata agaaaggata tgatggcagg aaaagaaatg ctattcattt tttatacttt 540
agttttattt tcttaggatc tatatcctat atatatatat tttttaaagc actaatttat 600
tgcagtcttt attttagaaa aatgtgaagc atttttttct cccctaaaat gaatatattt 660
agatgacaag tctttagtgc tggtagagga actaattgat tttgtactat agtaggaaag 720
tgtttatatg tttcaccaga aataaaatat gtagggtttg tatgtaatct tctgtgttta 780
tcctatgttg atttacctta aatttgaac atacatatcc acataaatat tcatgacttt 840
cttatatttc attaaaatgt tttatggctt cttaaaatca tcaactgtgct tctaaatatt 900
tttacgtaaa atcattgtat aatgctatac tgtgatatac atgaaagttt atcttgaaca 960
gtgctcttta acaatattaa atttaaattt atcttggttt tgctatgctt atgggtaatt 1020
catagaaaac agaaaaaata ctgttcccaa aaggcagtta tatatttcag tttaatatca 1080
cctataagta tgagaaaggt ttccatgtct cctaccctc actgcactta ggaaaattct 1140
tatttatgaa taaagtaaga taagtaaate taattgccta gtcgtttttt taacacatat 1200
acatgcaatg tatctggatg aatagaaggc tgaattgaag ctttctttat atttaagagg 1260
taaaaagaaa tattaatact tttaaaatat actaacaacc aaaaagtgtt cagaattttg 1320
ctataataat aatttgtatt aaaatagtac ctagaaaaat tcagtctatg gaataggtaa 1380
aattttaaaa ttttaatttg ctctcagagt tctgtctgat aaaataattg aactataatt 1440
ggcatgatga atattcccag gttttacttc agtatataaa tttactctc agccacatgg 1500
gctttccaga cttttcaata catatgatgt tgcaggaatt gcaatatttg caaacatgtg 1560
ccacaacagt gttcttggtg atgtttctaa aacagttttt attctattaa tgttaaattt 1620
tctaacataa acatttaatt gattaatgta aaattttagg aaggaacatc ttttaatttc 1680
aatatgagat ggttgaacc tttaaagtag tacatatttg atttttttta aaaggcaata 1740
tttttttttc taggaaaact attcattatg gttatttaac tgcattgttt ttaaattttt 1800
ccctcttgga acaacatgta ctggggccta tcaaaggtg gaggtggga ggaggagag 1860
gaacaggaaa aataactaat gggtagtagg cttaatacct gggtagtgaa ataacttgta 1920
taataaatcc ccatgacaca aaagtttacc tgtgtaacaa acctgcatat gtaccctaa 1980
acttaaattc ttccctcttt ttgtcttggg cacaagtttt tgggatatgg aaaagtttat 2040
tgtatccctt ttgaattttc ttctaagatg aactttttta ataaaagata ttactgcttt 2100
taaaaa 2106

<210> 128

<211> 2147

<212> DNA

<213> Homo sapiens

<220>

<223> nbla24549

<400> 128

aagtcacggg tgtggaattt ggagcaatta taccatcat cttctagaag actcccatat 60
caaggggctt ctggtgacct ataagagttc ccctttcttt ctgtcacctc atgtaatgtt 120
ctcacgcggg tggggctttc agtttttcaa aaggcatctt acatatgtga atcatagagc 180
agaccctgcc agtagtgggc tgttgccctc tggaaactga aggctgtgaa tgccaatttt 240
cagcctcctg gagacctggc agttttgggg gaagacccca gggtagacac cagtgttcct 300
ctaagtgtgc ccaccctgg actggggctt ggggcctggg gctggggcta tgtctgagt 360
aggctgccac acatccacag ccaggcctac cttttgggca gtgctgggac tgtcgatggg 420
accagtatgt cccggggcct gccacatctc cgtctcaggg ccctctccag ctctggattt 480
atcccaaacc ccatggagcc caggtgagcc ctcatgaact accaatagaa gattcgattt 540
gacggtttgt ggctagggc taaattagtc actgccccca ttaaaaatac agcggggggg 600
ttaagagctt ttacgccat gtgggaatca gcagcgaagc cggtgatgc cttgggtaag 660
gagagaggcg gcctagggga ccgtgaggta atgaggttta tggcggtagc aaggcagcca 720
gggaacccca ccgactcccc cctcaccocg gccgcattgt tctccggctg gctctgtccc 780
tgctgctacg gctgagagcc cctcgtgact ttgtgtgggg agggggctgg cagtggggac 840
cctgaggccc ttcctgggac tggcattctt taccatcagg tggattagg gttggggagc 900
agtgtagggt tataaacctg tgcctcggag aactactaa cccctccag aggaaaggtc 960
tggagctggg atgagacact tgcctttcaa ctgtgagggg ccttagaggg tctctgggag 1020
gcttgtatga agtgatgcct gacaaaggc tgcacacaga gacctgtaag cagcatggtc 1080
atcaatgatg gtgccaggca tcctgcagga gggcacctt tcagccagga gggcgcgatg 1140
gaatcagcct ctattttgga tttggctttg gggagtgggc gaggtgactg aaagcctaag 1200
gttcattgct gctgtattta gatgtacaaa ttgtcagttt ctacgggctc tctgggcaga 1260
ggaattttgc ccaggctggg aaatggacca ggaccaggac aggccacagg cccctgtcat 1320
ggaacacctg ccagagtgc ccagaagcag gcaggtgaagg gtttcagtct cagtggagaa 1380
actgtcatgg gagaaatctt ctcgagttcc ccagccttaa agaagctcc ttttaaattc 1440
acagtttgtt aatattgaac tttcacctg tttttcttcc ctctaagggt gtgtgttcct 1500
agggatggaa cctgtacctt taaatattca gtaaatagga ccaaaactca aatccatccc 1560
ttcctctact catccattca gcaagtattt actgagctgc cccaggtgc caggcactgc 1620
acagggcact ggggataagg agatgaccag cagatgtggg ccctggcctc atggaggcca 1680
cagtggcaca ggcaagcatg ccagtaaag catagccaca cctggtcatg agtgccgtga 1740
tggcaaagcc agaagctgcc agggattaat ggagggaccc gtgtatgaga cacaggggtg 1800
cattaaggaa ggccttgctg aggcaggggc ttgagacctg aagaaataag ggaggtgggc 1860
agtccaagag cagtgggaag agaactgc aaatgcagaa gccgtgagct ggaaacgagc 1920
cagaagtacc cttagagagc tgtattccta tggagtttca attctagggt gcttaaaaca 1980
atccagaga agttcagaat cttgtccaag atcataccat tcaggataga cttgcgacta 2040
taacttgggt gcctcacctt ccagcctggg gtgtctgact ccattgttaa ttttattata 2100
acaatcatga tgacaacgat gaataaagtg aaattgtact gtaaaaa 2147

<210> 129

<211> 2353

<212> DNA

<213> Homo sapiens

<220>

<223> nb1a20084

<400> 129

aagcagagtg aggactccct ggccagtgtt ctctaccatc tcttctgcct accttctttt 60
ctctcatgga agtaagaaaa gaatccattt catcaaaggt tgaacattcc acttcatccc 120
tgaattctct cttgctttga gttcttaggt acatctatat tagatatcac ttctcctct 180
gcatcccaaa tgcccttttc cctcctcagc atacctgatc ctctgtcctt gctgacctt 240
gtatgtgtgt gttttctccc ttgatgacat atccctcttc agctattgct ctatttatat 300
tcagaatccc aggcaagcaa cataaataga tgtctccaag gagtaagtga ttaattagc 360
ttgaagtatt atatatattt tcacacacac agacataaac atatatatgt atgtatgcat 420
ataaaacaaa taagataaat aactggaaaa tatatgcaat gaagtcagtg aattagcaga 480
tgagataaac atcccagatt ggtatgggtat tgtacgggtac ggtgtgggtat ggtaggttt 540
ggtagcaciaa ggtctagtgt ttagagctgg ctctgccagt cactatccct ttgatactga 600
tcaaatcata caaaatcagt ttcttcatcc ataataaagc cttcccttgt tactcagagt 660
tgctgttcca gtcaaaaata aatgttaatt ttatgatata gaccttgata agctgtatga 720
accttacatg atactaatgt agtaagatgc accacgggtc attcagataa gtgtcccagt 780
gagtcctcag ttttcacaaa gtcatttctt atccccagtt ttgtttattt gtgcacctct 840
gcatttacct agaacaagaa ttgttatatt ctaagtaatt gccaagaagt atggtacaaa 900
attcactact acttgattct tcagtggaga aaattatata catatatata tatatagatg 960
cttgccctaaa tgatatgcca ttcttcata cttttaaata ctgtaacttg tgttattgaa 1020
ttaagccagc cagtcaaaag cttgaaatta aacatagtat ttctctatga aatatattt 1080
ttaacattat aaaataaaat ttggaataaa agcattatgt atatatatat atatatatat 1140
acatatatat atatactcat aactcttcat tcatttttgt gaatcagttc cattcgtagt 1200
tttattgtac ttccaaatct tcattttctt ttggatcatt ttcttttggc agcattacgt 1260
gtgtgtatgt gtgtgtatgt gtgttttaaa agggccataa gaggaaaaca gcaagaagtc 1320
tgtctcctaa ctttgaaacc taaattttag ttttctttca cacaggaagt catcttgttg 1380
atctaataat attatgaagt tattctcttt ttgatggaca tttaggaatg tttgatgtt 1440
tcgtacaata attcaagttg caagaaataa gcacacacat tttgcaagta catctatggg 1500
atatgttcta aaaaattaaa gtgcattctt tgtcccttaa cctatgatac gggcattctt 1560
tattttgata gatgctgcag aattgtcttc taataagtca taggaattta cgttttcagt 1620
taaaatgtat aacagttctt gttatataaa atgtataaca gaaaggactt ttgatttcta 1680
tccatctgaa tgatgaaaaa tagtaagtta tttattaaat tattattacc ttcacatatg 1740
tatagtggaa cactgagcat atgtttaaaa gctacttgag tttttaaaat ctgtaatctg 1800
tgctttactc attttcttta ttggctgttg gttatttttt actgattttt gatgccctta 1860
tcttgtttaag aaaataatat ttttataata tatcacattt atcacaagtt actgtttatc 1920
tttgagtttt ctatttgaat ttgacatac acaaatggct catatttact ctttttatca 1980
gcagtgtctt tgtagttcc tggatttggg atatgcttag aaaagtttat cctaaacaaa 2040
gacttgtgta cttttaattt attgtcatgt ttaaactggt gctaaacttg gaatttatc 2100
tggagtaaga agtgaagtag agttctaaat ttactttgat ttgttttgt tcttattgtt 2160
gtttttcttc cagatttgtt atctagtgtt ataaaaacca atgattaaaa aaaaaagttt 2220
tttcttgctg ggcaaggttg ctacgactg taatcccagc actttttggg aggccggggc 2280
aggtggatca cttgaggtca ggagttcaag acaagccttg ccaataggtg aaaccccatc 2340
tctactttaa aaa 2353

<210> 130

<211> 2194

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21081

<400> 130

aaatttctca acaccacagt cagctaagtc acctactgcc accttcgaaa aacacggaga 60
gcacctaccc agaggagaag gtagatttgg agtaagccgc cgtcgacata attcctctga 120
tggttttttt aacaatggtc ccctacgaac tgcaggagat tcttggcacc agccctccct 180
gttccgccat gattctgttg actctgggtg ctctaaggga gcatatgctg gaatcacagg 240
gaaccatctt ggttggcata gctcttcccg aggtcatgat ggcatgagcc aacgtagtgg 300
aggtggcaca gggaaccatc gccatiggaa tggcagcttc cactcccga aagggtgtgc 360
ttttcaggaa aagccaccta tggagattag ggaagaaaag aaagaagaca aggtggaaaa 420
gttgcatgtt gaagaggagg actttccttc cttgaatcca gaagctggca aacagcatca 480
gccatgcaga cctattggga caccttcttg agtatgggaa aaccgccta gtgccaagca 540
accctccaag atgctagtta tcaaaaaagt ttcaaagag gatcctgctg ctgccttctc 600
tgctgcattc acctcaccag gatctacca tgcaaatggg aacaaattgt catccgtggt 660
tccaagtgtc tataagaacc tggttcctaa gcctgtacca cctccttcca agcctaagc 720
atggaaagct aacaggatgg agcacaagtc aggatccctt tcctctagcc gggagtctgc 780
ttttaccagt ccaatctctg ttaccaaacc agtggtagtg gctagtgggt cagctctgag 840
ttctcccaaa gaggagcaac ctgtttgttg tatttgcca gagtccctcc agcaccaccc 900
ctccaattga gatcagctcc tctcgtctga ccaagttgac ccgccgaacc accgacagga 960
agagtgtgtt cctgaaaact ctgaaggatg accggaatgg agacttctca gagaatagag 1020
actgtgacaa gctggaagat ttggaggaca acagcacacc tgaaccaaag gaaaatgggg 1080
aggaaggctg tcatcaaaat ggtcttgccc tccctgtagt ggaagaaggg gaggttctct 1140
cacactctct agaagcagag cacaggttat tgaaagctat gggttggcag gaatatcctg 1200
aaaatgatga gaattgcctt cccctcacag aggatgagct caaagagttc cacatgaaga 1260
cagagcagct gagaagaaat ggctttggaa agaattggctt cttgcagagc cgcagttcca 1320
gtctgttctc cccttggaga agcacttgca aagcagagtt tgaggactca gacaccgaaa 1380
ccagtagcag tgaaacatca gatgacgatg cctggaagta ggcatataaa tgctcacagt 1440
taaattctgac ccagtaaact ctgtgtgttt agggagtata caaaagaaat cgttcttttc 1500
cttttcttat gttgttgaat acttcattca caagggaaat aatcatatcc caaagagaga 1560
gcaattggct tgttttgctt ttgttatgtt tcttccctgt tatctgcttt atagagagaa 1620
gtttgtgttg tgggacagat tttttaaaca cactcacaca cacacacaca tacacacca 1680
gtatatatgg ggcgatgcac aggtaggagc tggcagtga ggggaagagga gacactggtc 1740
tgcagcaaca gcttctacta ccagcccttg gggcactcac ccctgtgatc aagcaatcat 1800
tgtcaatgac aaagtacta ttgaagttat aattgtatta aattaatgct aataatttgg 1860
atatatttatt ttatttttgg ctgctcgggt aactttagcc cttaccaag catatgtggg 1920
tttttttggg tgtttttttt tgtttttttt ttctttttcc tttttgggta cagctgtaaa 1980
atatattgat ataggaaatg ttgtgttatt cttgcagcct tgatattcag ggtggattgt 2040
aaaatataaa tttttgtgag atttcaaaga ttaagattat ttgataaca ttatttacag 2100
attttaaaag atgtggttat cacaagtctc gagggggaaa ctactgcata aaataactaa 2160

cttgggaataa atattttgca tcagtttggga aaaa

2194

<210> 131

<211> 4042

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21420

<400> 131

cgaacttggg atccgtctcc tctttcgct cctccacttt gggagccccg ggctactctt 60
tcacagcccc tgttgccctg tgatctgtag gtccttgggg acgcatagtt aagggtgccag 120
gacatcctgg aagctgggaa atgggtagta tacggagttc ggcatcccga gaggggagag 180
caggctgtga aaccggcagg accggcctcc ccacggttag ctccgagtct cccgcagctt 240
ggccctcagt cccctgtggc tgcaagatgg ccgctgggcc agcagcgagg acccccacgt 300
cccgctccggc ccatccggtc ctgtccctgg gcagcgccct gctctgcgcc cacagccatg 360
agtatttccc agattgttca gggaggcctg gtgggtcatc agggaaaaac cgcgactggg 420
tgtttgcgtg ggaggagctg cggcccgtgg ggtccccagt ctctcttgtt aaaaattaac 480
gggagtctat gttaaacgtt aaccagttta tctgaacaaa cagtgttgg tgaaatggaa 540
agcaccacgc catgatttct ggtccaccag aggggcataa aggaaaggct ttcataagat 600
gcatgagaaa gcagcccaaa ttcaaaaatt ggttccagtt atgtagtcac cttatttgaa 660
ctatccagat ggaaatgtcc tggttacata ttcagaggtt aattgcatgt ttgccattgg 720
ttaaacgtgc attttgtttc aggctaagat aatggtttat aggaaatgta tttagattag 780
gttttagttt tttttttttt taacctatga acccaggaca ctagagccac ttagtctaa 840
tttctgctc ttaattatt ttaacactcc agaggaggac tggttttctc ctgtgttttt 900
ttaatatatg gcaagtggaa cctctaactg accaccctgt ttttcagcct aactcaggct 960
tgtggtaaaa ttatcagttc ccactttctt tgctgcattc tcaaatgcaa cacaggagaa 1020
cagttttccc ttgcaaattc acaaagctgt taactatttg tcctttatta tacatttcat 1080
taaagttttc tattattgga tttctttcta ctctcccta cagttctgcc catatttgct 1140
ttttatattt agaagcctcc cttttgggtg cataaatata tatagctata ttcacttgac 1200
aaattaacct ctattattat tgtatggtaa actcatttca tgcttgtgag agacattgct 1260
agaaagtcta ttttgtctaa tttaagcata actaccattg aactcttttg gctattattt 1320
gcatggaata tcattttcta tcctttcact attagcctat gctcttaatt cataattgag 1380
tctcttgtaa gcagcatatt acgaggttta aaagtttcat ttatccactc tgtctgcttt 1440
agtctctttt ggctgttaga atatcacaga ctagtaatta ataaggaaca gaattttatt 1500
tgactcatga ttctggaggc tggaaggta aaagaacatg ttactggtat ctgttgaagg 1560
tctagttgct ggataataac atggccaaag atgtgaggga gagagagctt tttttttttt 1620
aatatataac agatccattc ttgttaaaat tagccattc ccataataag aacattaatc 1680
cattcatgag ggcagagtgc ttatagctta attaatTTTT aaaggttcca cctcttaatt 1740
ctatcacatt ggtcatttta tcctaaattt tggagatgac attcagtcta cagaagtatc 1800
tgtttagtag ataatttaatt ctttttattt gtaaggtagt gataggtaag cagttactat 1860
tgtacatttg tagttttctg tccattttaa gtttgcttct ttttttctg gttctgtctt 1920
tcctgtggta ttgttcattt ttgttgagac aaagttatgc tttcttgctc agactgaagt 1980
tcagtggcat atcacagctc actgtagcct caatctcctg ggctcaagca atcctcccc 2040

cttagccacc caagtagctt ggactacttg gacacgtacc acaacaccca aggagcttat 2100
 gattcttcca ccttggcctc caaaagtgtt ggaattataa gcaggagcca ctgtatccaa 2160
 tgtgtaattt ttgttgtttg tgtatgcttt aattactttc tctttttctt tactatgttt 2220
 tttttttccc cagtggttat catgagactt atgtaaaacc tcttgtattt taatagtcta 2280
 gtttaagatg ataacaattt agagtattct gaatttcagt atgtatttac catttttagt 2340
 gacatttata ctttagtatt tttcatattg ttagttagct tttcgtcata tcaatgtgaa 2400
 gatttcttcc agaccatggc tggagaagga aagaagggtg gttttgcctg attcagggac 2460
 tatagagaga accaagttct gcaggcctgt cacctaagtc tcagatgagt atgaattctc 2520
 ttgtgttttt cacagatttt tgcagtggca ggaccaagt ccaatgagtc atagccaagt 2580
 ctacagtaag atgtggtagt attctgtttt gaaccgagga ccatgattgg caagcttgcc 2640
 acttgggtcaa gtgcttacc tctaaagatg tcttccttgg tctttgcctc cagctgggtg 2700
 tcacaaactc tgaactggat tctaaggctt tcatgaatgc acttatgttt cctgtggcag 2760
 ctgcattatg ttgtggggga tgtgcatgcc gaacctccca ttctgtcatc ttgcttatgt 2820
 tactctcctt tatgtttcac tttctcaaat gaatgtcaag ctggtgattt ttagattcaa 2880
 aaattctaaa ataaattgct caaatttcca cattatgtaa gctattaata aaatgtcttg 2940
 tagtgcttac atatttatta aaatttttgg ttgtaatttt aagctcactg caggcagaaa 3000
 ggaatcatta acatttatat tctttttttt tagtctgtat ctaaagatg gcatatttta 3060
 attccagata ttactttat actgcagtaa tgctcgtcat attttgcaaa atttatgttg 3120
 ttcttttatt tggaaatata aggccttttt agctcctgaa atctatatta tagtcatata 3180
 attttattat gttttgtggt aagaagtgca gcaacatatt gagaacataa taaaattatc 3240
 ctgtattttt aatgattatt tattaaattc ctctcattag agcctgttat taatgattgt 3300
 aatgtatttt ctgtataatt ttactgcaat ttattaaatt ctaatgactt aaattgtctg 3360
 cttttcatga gtgcacacag ttgaatgctg tagatatcta aagaattatt ttctggccgg 3420
 ttgtggtggc tcatgcctgt attcccagca ccttggggagg ccaaggcggg tggatcacga 3480
 ggtcaggaga tcgagacaac cctgactaac atggtgaaac cccgtctcta ctaaataac 3540
 aaaaaattag ccgggcatag tggcaggcgc ctgtatcccc agctactcag gaggcccagg 3600
 ctggagtgcg gtagcacgat cacggctcac tgaagcctca aatccctagc ctttaagtgt 3660
 ctacctatct cagcctcctg agtagctggg actaccgacc tgcaccacca agcctggcta 3720
 attttttaaa atttttgtag aggttgagga gggaggggct ctgttgccca ggctagtctc 3780
 gaactcctgg actcaagtga tccacctgcc tggcactgg gattacaagt gtgagccatc 3840
 acaccagct tccctgagcc ttatacaga actcgccttt gagttagggt ctgttgata 3900
 ttctagttag ggcattatat tgatttttta aattactatc attctgaatt aatacaaat 3960
 tgtggtacat tcatacagt gaatagaact cagcaataaa aagtaatgag gggaggtggg 4020
 gatggttaat gggtaacaaa aa 4042

<210> 132

<211> 1898

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22452

<400> 132

aactataaag tgtggttcct gtatgataca ttattacagt tgtcttcttc cttaaagact 60

catcttgaat ataaagaaaa agacaatgta agttcagtc acagcatcgg gaacattaga 120
catgctcagc gtatgccctt cctgccaaca ttgtacctt tctcctccg ggttggatgg 180
gcactaactc gtcctcagtc ctgcagctag atctgcaact ttgcttaatg atgcaggta 240
aaattgaaat agaattatgt attattattt ttacattca tttttgcctg agacaggagg 300
tggagggtgg taaattaaga aaccgggaa gctcagtgct tgagagaacc catagaagct 360
acagtctagc ccatttggct tcttactttg ttagattaga taatcatacc tgctgctcca 420
ggcgtgacta gcccagtgagg agtcaggaag gaaattattt ccctctgttg ataccggttt 480
acaattgccg actgtcgcca agggctttca gttttaatat ttcctctttg gtcctcagaa 540
gtatcaggta ttagtctctg ccggaagcaa agcattggtc acttccgtca gaggtgaatg 600
tcttggctgt ctataattcc tcagtcaggt gctttctggg catgtgtgag catttgctca 660
gctagctttt attgcttgta tgttatttgc ttcaaaaatt acaagaggat ttgtcgggtc 720
tgagcagtgta cctatccagt cccctgaaac tctatggttc ttcgtgtaac ccagggatgt 780
ctttagaggag gtatgtttgc tgtccacgaa agtaaaaagt agtgatatct ctttctctct 840
tttcttccct tctcctaatt tccacattct cctatttctt ggcttctggc acagtggaga 900
taccgtact ctacattagg catggcctta ggggatccga attctcaggt cttcctcaat 960
gagttgctgt gtggtagaca gcatctgaag ttgaaatgga tagagagacc tttgtagatt 1020
gtggccaaat atttacacct ggttcataga gtatgtgttt gctgccctga tctcagtggt 1080
ggtctgggtg ttagtgaacc tcatgatctt taggaaacta tgtgaattag gcttagtccc 1140
tgaccctgag aagcttatag ttagggaaaa agacaaacat ataaaggaga aatacacatt 1200
agaaacatat tctttttttt ttttgagatg gagtctcatt ccgttgccag gccagagtgc 1260
ggtggtgcga tcttggctca ctgcaacctc cgctccagg attcaagaga ttctcttgcc 1320
tcagctgccc gagtagctgg gactacaggt gcgtgccgcc acgccagct aatttttgta 1380
tttttagtag agacgggggtt tcaccacatt ggccagaatg gtcttgatct cctgacctca 1440
tgatccatcc accttggccc tccaaagtgc tgggattaca agaaacatat tatttatggt 1500
acacatttat taatcaccag atatgtttca ggccttacgc tgagtgttg ggaaattgag 1560
ataaattata gtctcagatc tcatggggcg tggatgaaga gttgggagaa agaaaaaaat 1620
aggccaggcg tagtggctta tacctgtaat ccagcactt tgggaggctg aggcaggcag 1680
atcacctgag gtcgggagtt caagaccaga ctgacaaaaa tggagaagcc tcatctctgc 1740
tagaaatata aaattagccg ggcagtcctc tagtcccagc tactcgggag gctgaggcag 1800
gagaattgct tgaaccagg aggcggaggt tgcggtgagc cgagatcgca ccattgcact 1860
ccagcctggg caacaacagc aaaactctgt ctcaaaaa 1898

<210> 133

<211> 1798

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22595

<400> 133

aagtacaaat ccatagggca catgagaact acaatgtcta tctacagtaa atacagtttg 60
atgaataaaa tgaaaggcaa ttgacctaa gtgaaaaaa aaaacaaaaa acaatcaaag 120
catgggtact atgtgtcatc tgtaagagca ttgggttaag aataacaaac aaaccagtat 180
tatcgtttta atagccgaaa ttggcaaaat ttccagtttt tctttcataa gaatgttctt 240

tgcaagaaaa aattttcata tagtgagagc aaaaatggca accatttgca agtaaatgtc 300
 ccatgaaatt aagtagcaga tatcaagctc atgaccttca gatagttacc cctaactcaa 360
 tcacttacat agcaagtgcg gataattttc atagctccct attaaaatta tatttcaatg 420
 cccttacaaa ttgtgactgt ttttaataaa agttgaccaa ctaaaatttt gtatatgaca 480
 tatgataaat tccccctcaa gtcaccttac atttacttaa ttttattagg cagtgtctgt 540
 ctaccacca ataataacttg aggtattctc ctccatttgc acagacatca tagctgggaa 600
 acagggattc acaagaccca ggctgttccc tacatatgtt tcctcctccg acatcagttc 660
 atcagtcaat caagccatgt gagagtggag gcctgttatt ccctattatt ctggggcact 720
 ctactccaag taggaaaagg ccaggagggt ctgttaaagg atgcactcag agcccgggct 780
 ccctaacgta tgagagtgtt aaccagcagg tgtagacttt tcaggagtga agaagtaggc 840
 aggcattcca aacctggacc ttcattccct tttgtttcat ctcaagacaa ttctgaggga 900
 ctgttttggg gcgtgtcttg aaggtgaacg ttgaagaaga gtgtgggctt tgatgtgact 960
 cagttgagat ctttcatggg gaggcaggaa ttcaatgcc agaactctggg ctggtgtctt 1020
 tgaggtcagt aggttgcgtc tttgtatcca agtccattgt tactaggttg gaggtggag 1080
 attctaaatg gcttccagac catctctctg attctctttg ggagatgggg tctgaaagac 1140
 aatgtcagta gttttgggaa attctagaaa gtgtgcttgg aaacgtggga agagctcttg 1200
 cctagtgcct aaacgctcca ttgacagctc tagccaagta gatacttggg aggtatagag 1260
 ccgggtttgc atttatatca gcaaaccta tgtcagaatt gaagaagtag tcaggaaaaa 1320
 gtgtcttggg cgcaggccgg ggaacatctt aaaagcaaac ttctagcctg ctgactcttg 1380
 gcaatgagtg ttggatcctg gctaaattgc cttgaatgca gcatgaggcc aatctatgaa 1440
 tccaacttct catggagaaa tgtaaatatt ttttcagttt gaatcaatca ggggtgaaact 1500
 accatgctat tggtttgctt actttttatt atttcatata aaatctaaga caaaatacat 1560
 taaatgccta ttgacatatg tattttattt tcaccgggct gataatatct gcctgatttt 1620
 aaactttctt ccattgtgta ggtttcaact tattctattg taagatactg ttaaacttaa 1680
 tagaggcatt gtcactttta tgtataattt tattttattt catatatttc ctattggctt 1740
 tttacattta aattatggag cacttcatca tataaaaagc ttcaattata tttaaaaa 1798

<210> 134

<211> 1528

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22676

<400> 134

ctatgtatgt gaggccatgt atgagtgtac caccatcatat ctatgagtgt gtgagtatct 60
 gtgagtcctat gtgtctgtgt ttgtgagcgt gtgtttatga gaggctaggt atgtgagggt 120
 ggggtgtccga gtgcatgtgc ataagtgtca gaggctctct gtgtgtttgt gtgtgtgtgt 180
 gtgtgtgccc gtgtgtgcac gtgggttggg atacacacag gggtccaggg ctggcatcag 240
 gggcgaggcc agtgggtttt ggtgttggg gtcagtggag tcaggaacag gacagagtcc 300
 cagagataac aggaataga agaattgctg caatcgaacg tgcaaagctc tctcaacttt 360
 tctgtgaca aaccgcaaac tgccgcgtc caccctcact cgtccctctt ccttctgccc 420
 acagtagaag ggtggggctg gcgtggctat cctggctgag cccacgccct cctgtgccc 480
 agcaaccgcc ccgggtgttg attccatcgc tcctgggct tccagtcctt cccaccagcc 540

cctgccccgc tgtgcagaat atgctcggac ctcctagggc cacataaaac caccacctca 600
 gccagaccag ttcctgggtca tcctggcctt agggctgggc actgggtcag cttctgagca 660
 ggcaggagct ctgctcatgt ggacctgaca cacattgcat gagcagacgg gaggaaaaga 720
 agccagttcc tgggagggag tgcactggcg aaggagtgtg tggcgtgggc agagagcaga 780
 ggtcaggggc ctccctgaga agggcagtgc gactggcatc tgaggggtga ggagaaaggc 840
 ctggccagag tcccagcttt atgaccattg cagggcagct tctgggctgt gcagctcaca 900
 cacaccttcc cctccttccc ctccctcccc tcctctctgc cctggggcca gcctccctcc 960
 tccactcccc tgaaatggct cccagccata attagcacag gacagaaaca gcaaatgctg 1020
 gtcggtgtgg taggctcacg cctgtaatcc cagcactttg gaaggccgag gccggtggat 1080
 cacttgaagt caggagtctg agaccagcct ggccaacatg gtgaaatccc atcccactaa 1140
 aaatacaaaa attagttaga tgtggtggtg cgcacctgta atcccagctg cttgggaggc 1200
 tgaggcagga gaatcgcttg aacccgagag gtggaggttg cagtgagctg agatcatgcc 1260
 actgactccc agcctgggtg acagagcgag actctatctc aaaaaaaaaa aaagtcctta 1320
 gaacaaccaa ggcctttcta agagtgtgcc ctaagcaagg ctgtgtgctg aatgctttga 1380
 atcatctcat ttgatataaa caccctgcta ggcacgatgg ctcatgccta taatcccaca 1440
 ctttgggagg ccaaggtggg aggacctcct gagaccggga gtttgagacc agcctgggca 1500
 acataggaag gtaccatttc taaaaaaa 1528

<210> 135

<211> 1132

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22909

<400> 135

gttgcttata ggttttcaga gtaaaagcag ttatgatctg atttcaaaaa taattgttgt 60
 aggaataatg acctatctaa acttttattt aaatttctgt ttaaacttct atttaaat 120
 gtgataagtt cctcatctga aatgagctgt cttgttgtct tttgttctct ttttattaac 180
 tatgctcaga ctttaaagta tatacaaatc acctgaagat ctttttaaaa tctagaatct 240
 gattcagtaa ttttggggtg gggcctgaga tttttcattt ttgcaagct cctaggtgat 300
 gctaaatgct gttgtttcat ggaccatatt ttgagtacaa aggatctaaa ggaagatatt 360
 ttatatgtct ctaatgtaac atttttaaac ataaacaact ttagattctg tgaaccttaa 420
 agtgatccgc ctcaatctaa gagaataaca attttgggag acacttataa aaataatgtg 480
 atgttagctt aaacattaca cggacattac aaccttaca cttaggtgag agaggctttg 540
 gttatgctga gttgcctatg tgctagtgat aacactaccc ctttcttcta agtaaaatat 600
 ctgagatac aagtgaaaaa taatagtact gttatcgagt tctcttttgt ggtcaccatg 660
 atgtgtgttg aggagcagag tgaacaaagg caacctgatc cctgtctctg tagagcttag 720
 tcittattca ctgccagtat tttatttttg ctcatagct aattgagaca cattgatacc 780
 tgatgattgg gaggaactgt tctaattgca tttgtaaaag gagaattcaa attggaagta 840
 ccagctagga acggtggctc acacatataa ttccagcact ttgagaggct gaggtaggag 900
 gatcacactt gagcccagga gtttgagacc agcctgggaa acttagggaa acccgatctc 960
 tattaaaaat ttaaaaatta gccacgcttg gtggcaggca catatagtcc caggtaactt 1020
 gagagattga ggtgggatga tcacttgagt ctgggaagtc aagactgcag tgagccatga 1080

tcattgggact acactgttagc ctgggtgaca cagcaagact ctgtctcaaa aa

1132

<210> 136

<211> 2160

<212> DNA

<213> Homo sapiens

<220>

<223> nbla24435

<400> 136

aggagaaact gttttgtac actgtacatc cttagtattt ttacacgtat atgataggga 60
tgaacatgat tttccttcgt acagacagct taaataaagc actatgtcaa tctgctactt 120
ctctgtttat tgtgtttgga tgtggttcta taatccccc aaattaaatc tttttaatg 180
aaaacatgat ttttaatagc cccagctggt attaacctac cttgtataaa atgtgacagg 240
aaaatataga aataattcct tgtagctcac acacacacac ataggggac atttttactt 300
cagtgaatg gcagtagcgc ggttgtgaaa actttgatga acggctgctt ctgaggggaa 360
acgctgacct ctcagcactg gatttaggat ggatgtactg tgaagccagg gatgaaggag 420
gtctcagacc ctggggacat tcagaccga atcatctata caacacacgg tttggacca 480
gaatctgaag gaatgtagct tttcattaac gtcttctga taatgtactg ctctgcata 540
ttcctttctt agagtgtatt tctaacaaca tgcattggca aattaacaaa cttagacgtg 600
ggtgatgtag atgggttagga tggctggact gcagctgac ttcacgttga atcattctgg 660
atggggcctt tttctgattt tacctcataa agctactatt gtagaaactt ggctttgctc 720
ctgtgacgaa gccagacaga ggaatggctt ttgggaccag agtgagtcaa gcatgtatgt 780
gtatgtcaca cggccaaatt tgagggcatt ctcacatgtg ctcttctctc aaaaccactg 840
gggttgacag atccaggagg ctaaaaaaaaa gtgacctcta taattcttta aagggtctat 900
ttttagaata ttgtataatt tattcacagt atatctaaaa cagaattaag gacaattaaa 960
atatcttatg tgacagcctt tatgtctagc acatttgatg aaataaaaaa cttctgaatc 1020
tgaatagaag ttctactgtt tcaggcttga accttttaca tgctcaagag attcaaatgg 1080
tctctgtgtg tagatcatgc caccgcctcc aaagccta atccacatcact tctgagaggc 1140
aaggctgagc atatggtgac atcagctctg tgttgagatg gtgatgagga tgatggctcg 1200
ctggccaggc agggcagccg aaggtcaggg acctgtccta actaactgca gccttgcctt 1260
tagtgtttgt cattctcaga tacaacacgg tatgtccagt gtccgttttt attactttaa 1320
agcatttgag ggcttaattg tgtatagtag aaatactatt ttagacaaat aattatctgt 1380
gtacagatat ttgatatact ctaagtaaat tttctaattt cactaagtac gtttttaggc 1440
tcctctcaaa tactgcgtat tgaagaaaaa aatctgacac caccgagcca aagatgctt 1500
tttgtctgtt ttcgttgttt aacagaatgg aaagagtaat gcatagtgtc tcctggtgtc 1560
tcctgattga ttgattgtgc acaagtagg acgataaata aataaaatgg agtctgatgg 1620
gacattgatt aaaggatgaag gatgattgat atatagatca tgaagaaaaa aatgaatggc 1680
aggaaaaaaa gtttggctcct taatatactt tggcctagtt aaaatatgtg cttttttggt 1740
gtgttttgtt catcactaca agataaaaag gaaacattac aactcaagtc tttaaaaagt 1800
tcatttatgt aaaaatcatat gtataaccta gcatacgaat gagcagattt aaacacataa 1860
cttcaagcca tttctgaaaa catacaccag gagctctgct cagctagagt cagactccag 1920
ctccagcccg actgcgtgcg gggacagcgc ccgcttgat gaggaccagc cccactgcag 1980
gctgaggcgg tgtcaccctg ggaaggtcgt ggtgcgttgt ggcatattaa gtctaaacca 2040

gatgaatgta aatatctctt tgtaaatacat ttatttcact ctgttccatc caggtcagca 2100
atcagattgt ggcatgctgg gtaactggaa aaaataataa aaagtaagtt tcaataaaaa 2160

<210> 137

<211> 1766

<212> DNA

<213> Homo sapiens

<220>

<223> nbla20146

<400> 137

aaaaaagaaa acagccagtc tgaagtatcc attactcaag tcccaagggtg acctctctct 60
cctcagattt cttctctggc cctgtgccct gcactttctt cactgtgttc aagtgtcata 120
gctatcaggc cactatcatg gatatcatgt atccttcctg gtgtcacac acctgtcacc 180
ttgtaaaaca cggacattag tgtgaacaca ggacagcttc gctctttctc ttctgcctt 240
tcctctatca gagaagtga tccattaagt aattatgttt ggtctattgt aattacagat 300
gggaccactc aggggcaaag gtctgactct tcctggtagg tgtaacagat agttcacctg 360
tgaacgaaca tcagcttaca gatgatgagg acttaagggt gcaagaatga agatttcaga 420
ctccaagatc cttattctt tgggccttga gcaggttagt agtcccctgg tgagaagaga 480
acattttgtt tgtggggcta atggggccag aggagggtta gactctgctg tctaagctga 540
agcctcttcc tcgcagcgag ggtcttccca ggaacattga tgctgcctca gacatcctct 600
tttctccaga gtaggggaaga ctcccactga tctgagaatg agcccagagg ctgtgtgggg 660
gactgtttta ctctgatact acctggatat ctacttctt ttaccctgt tctgcttaac 720
agaactgcc aagccagaag tacctttgca ctctgtgtt tcagtggaca gaggaagctt 780
tagatagaga ctttagacc tgccctgcag agtcaagact tgaggccatt gaagctgcag 840
gaagccctgc ccagggatgg tcctgccatg aggaggctgc aacctataa gagggctcaa 900
gattgtgaat tctgtcctg ccatgaggag ctcaagagg caggaagcca gcaatagggg 960
agagaatctg tgtgcttatg gacagtcctt acctaaagct gtttctgaat gttgcaccct 1020
ttgagaaatt tcttctcaga accataaatt gaaacaaatg aggactgac ttgtatacaa 1080
agtgccaaat caagaggga gttggagtat gtctgttgca gagaaccaat atagcagtgc 1140
ccaggggtag agaccatgtg ttccatactc ggatatttgg gtctttttga gagagctggg 1200
gaaagtagca gcaactagat taagactggg aggtatttga ccaaactaaa ggccttttct 1260
ccttactgca tctgacgtgt gtcttcttga gacaagatag caccatgaa ttacatcatg 1320
aggtatgtgt gaattcagtt tacatgtaag acctgagagt tcgaagaggg cacattccca 1380
aagacattcc cagtcatgaa atgtagaaga ctggaaaatt aagacattat gtaaaggtag 1440
atatggcttt tagagttaca ttatgcttgg catgaataag gtgccaggaa aacagtttaa 1500
aattatacat cagcatacag actgctgtta gaaggatgg gatcatatta agataatctg 1560
tcagctacta ctaggcattt atgttaatt gagttacaga aagtcattca agactgagtt 1620
tatagaaagc atattgcac tatctctgtg tagaacattt gattcacatt gtgaagaatg 1680
cagtttaaaa tatactgaat gcaatctaga tgtattgtac acgaaagggtg aaaaataaca 1740
gggtgtcttt actgtttaga taaaaa 1766

<210> 138

<211> 2470

<212> DNA

<213> Homo sapiens

<220>

<223> nbla20170

<400> 138

agcttttaggc acgttttagt gatgtgtagg actttgacct atatttggtg tggcttctat 60
cctatgaaaa gggaattgag tgttttgact cgtcgtttcc cacctgttgg gcctgtctgt 120
aggtatacct tctaaaatca actgacatct ccattttgct acagagtagc aaaaatcaac 180
aatttttaag cataactaatg gtgtgcattt gatctgaatc ttcttgatgc tatcatgttt 240
cagctgtgaa tatagcctgt cagatgctta gaacaatcag ttgaactggg atgagtggct 300
gcattagggc ttacaaatc gttaggactg aattttggtg ggtttagaga gtgcatTTTT 360
atagctgagt tgaatgtgat gatttacta caggcttttg gcaaaggagg ggagctgcag 420
tgagttagctc ataagattca tttataaat agaaacataa ggattttgta taaggcctca 480
cctgtttata atctacctaa gattcttttt gggaattaaa gttagaatta taaatggctg 540
gttgggtaaa atgtaatact atgggccttc tttagatttt tcagagtatg tgggtaacat 600
tttggtttat attcttctta aagacagatt gttaggtaat gtgtaaaatc taatttgacc 660
ttatgttctc acaattaaag gtttatattc tagataacag gtagctgata gtcctgggt 720
tctcagctgg tgtaattaac ataattatga aagccccaac ttttctttt ttttaagttct 780
tagaggtaga acacagaaca atgagccaaa aacctgtta tttataagat ttgaaaaac 840
aaaggataaa agtttagtca tgttgagtag ctcaatagta ttttgttta aagaatgtt 900
aaattgtgta taggaacagt taaacctga tgccctttta gttttttatt tggagtaata 960
ctcttagtaa ctggtctatt ataatggaa tgagaaaaag tgtaggctgc tgtgtttgca 1020
tacctgaggg gtcgtctatt taggcacata tgtttctatt gaaaacttct atctccagaa 1080
ttacctaaaa ctatagtgga atagtgaagt cactcactgc tttattgcag ttactttagc 1140
ttcgtgtttc actgttcggg aagtgtctaa aacatggaat tacagcaaag tgtctgcact 1200
tttcaaagac ctaagggaaa agatggactg atgaaggtag gtggggtttg ttcatTTagt 1260
ttgcaacaat atagaatagt actgagaacg taattgtctc tggttatata gtgatggctc 1320
ggaaggtagt gtgcctgtga gaatttggca acataagttt ttttgatcaa gttactgtgc 1380
cggttaagtg actaaatcta tagtcttatg ctttttcttt ttgtagtctg gtagcatTTT 1440
attaaaaact tcaacctttt aagatttctg caacttagca gatgtgtctt aagatcttga 1500
aaagcacaag gtttcttaag cagcacatgc cactaactgg tgagtaggtc tttgtcactt 1560
cattgagtga attgaatctc tggttgggct tgtaggctt acttggaat taaatttccg 1620
ttcagacgtt gaaagtgaga gtttgcaagt ttttcagtgg gttaatctga tgtgaaattt 1680
cttagaactc attttggaat ggattttcac atctgcacta attcttaaat tttttagcac 1740
tacagggaag atctgttctt tgaaacaggt gtatgagaat ggctcaagt ggaacatacc 1800
acaaggcatg tattaccgta aactaatttt caaattaccc ttttttctt tctatgttcc 1860
cggtagctgt ggatcgactc attggtgatt gtatcgacga acgttgacta cggaaccttc 1920
taaaatattt acttaacaca catggacatc aactacttat aatgaactgt taattactgt 1980
tccaatagcg tactgagcgc tttgggcagg gaggtgcggg gcctgtgggt ggacagggtc 2040
ctagaggaat ggggcctgga actccagcag gatattgtag agggagagaa gtagtgaag 2100
gcccacaaca aaaccccga ttttagatgt gatatttagg ctttcattcc agtttgtttt 2160
gtttttttgt ttagatacca atcttttaaa ttcttgcaat ttagtaagaa agctatcttt 2220
ttatggatgt tagcagtta ttgacctaat atttgtaaat ggtctgtttg ggcaggtaaa 2280

attatgtaat gcagtgttg gaacaggaga atttttttt cttttttatt tctttatatt 2340
 ttctttttta ctgtataatg tccctcaagt tatggcagtg taccttggtc cactgaattt 2400
 ccaaagtga ccaatttttt tttttttact gtgcttcaaa taaatagaaa aatagttata 2460
 atattaaaaa 2470

<210> 139

<211> 1992

<212> DNA

<213> Homo sapiens

<220>

<223> nbla20216

<400> 139

tagttataca aagtattttc ataataattag tctttcttta atctgtgtag aaatacaaaa 60
 ctgtgtgctt cagataagtc tcatttccaa ttgataaca tttatgtgtg tcctataatg 120
 tataatttga gtatgtataa ggagaatcta tgcctaaca actttgtaga accctcttaa 180
 aataaaatgt aatttgaaat cctcaggttt tagcaattca gttaccaaat ttttcttctc 240
 aaaatatgtt tggggctata gcggttttcc taaatttcat tcccatctct ccattagccc 300
 agaagttata tttacacagg aggactgata ggcaagttct atgaaccttt tttggtgttt 360
 ctgctctttt ggccatgctg tttctatgac tcagtttata tttcttagca tggtttatcc 420
 aaaactaaat gtattaattc attagtagca accaattggg atttcagtct tagcttatcc 480
 atctctcttc tcttttttgg ttgcaatggc aagatttaca gcatttaaac tttcttgcta 540
 ctaaaccctc ctcaccctac tcctcgcttc taaaatgatt cttttggcca atcactttgt 600
 tgtcagtata gttaccatca tagaaaataa ggatttgatt tcagaaagtt tagaaataca 660
 aagctcggct tctaggtatg taaaatttga tgcttcagac catcagcaag atcaatgaat 720
 ttgatacatt gatcatctcc tctgcctggg agcttgggat atatttggtg tgtgctggat 780
 tggggagacc ttctaaacac atttctgtgt tcgtgtttt gaataacta tttacgttaa 840
 atattttaag ctctagtag tcaagggtt cggtagtgtt atacagactt gtttttaaat 900
 tttatttgca tataatgcaa aaaggaaatg aaagcatttg aacaatgtga acaattgcct 960
 ttactttttt ttctaaaaga aaataataac aatagtagac ttgttcagag agagcatccc 1020
 attcatctgc gctccagtct cctcatctga aaatgagggg gtaggagtag ataaccttg 1080
 aaaaatcttt gagatgaagt tcatcagagg catttgaaa gtcagtatca gttttctgtt 1140
 acaaagaaaa gccctgtccc acaaatttct gatttctcaa tggactgtga aaggttagag 1200
 taaatactgt tttcctgaat tcccaggggt ctagaacagc attaaacgaa atcttccagt 1260
 gtatctgggg cgacattgtt ttctcgctc tgaaggattt ttttctaggt ggaatgtagt 1320
 aatctccagc tggatgatca ttgactaaat tgtaagccca ttcaaccag agagaaataa 1380
 gcctccagtg cttttggata tagtaattct accttgcat gtgtgtgtgt gtgtgtttc 1440
 atatgtgcac tcatatttgt gtattcagag tgagtctaac taaaaatgaa acatctttca 1500
 tgaccctaaa taacacctt aggatcacgc aatctcagct gaggctaaag aatcacaaga 1560
 agcgagaata tgatgtgtt gccaaattaa agtagttgat catgactcaa ctagagaaag 1620
 ataggggaag ggtgtgtggag atgtggctgc aggcattggc aatgacatat tcttgaaagc 1680
 cttggacact actttaacaa agttgaggtt aggaaagtga aacgtcatta aagagctcat 1740
 caaacagag atatgattga tttgttttc tctaaatga cactgcttga agtattttaa 1800
 attatctgga aagaggaag actgaaaaga aggagtcacg gtgagtaact gaggtacaag 1860

gtgatggcctt ccaaagttaa tgtcagtgtg gtaggcaagg aggggatgga gtagataaat 1920
attaaagagc agaatgtiatt ggtctggttg gttgaatatg tgtggtggtg gtggtagtag 1980
gttggccaaa aa 1992

<210> 140

<211> 1603

<212> DNA

<213> Homo sapiens

<220>

<223> nbla20657

<400> 140

aagcattctc tctgtgcaga ttgctctgaa aagtcgattt ctgtaatat tgcgtgtttt 60
cctctaatagc tggccttttt gttcccaca gtgttttacg acgacgactt gactgatgct 120
gtgttttaaaa cgctctcccg actcgccac agattgaaaa atgcctgcac agccatactg 180
tcggtggaga agaggtgagc tttgcgccac gggaaccgtg ctgacgtccc gagtgtcagc 240
ggaactctca cctcctaatt gtgtccttgt tagtgtcatt atgattgtta ctgagtcca 300
cttattgagc acctactatg tgccaggctt gtgctcatcc tttgtgtacg ttactgcaact 360
gaatctgcat cctagccctg tgtgcaggcg ctgctgtccc acttgactga tgaagagagg 420
aaggctggaa agcatcaggg gccttggcca gggcacggct agttagtgat agacaaggac 480
ttgaatgcag actgtactgg aacctcaact cttggccagc acacactgtc gagagcttct 540
cttctgaat gtctctctg tgggtgccgc tgtctcttca gctccccag gtctcttct 600
cttctgaat cggacagctc ctacccaac agcctcacc agacatttcc actagaatat 660
cctgaaatgt taggttccat ttattgagtg ccacacttgt gatagctaca cacattctcc 720
tgtaatactt aacagtagtc cacagctttt ctgaagatcg tttggaatcc acagcaaaag 780
ctgtaaaacg aaacagactt cttcaccag caattcagca tctggaaatt cacattcagg 840
gttgtgtaca aagctgtatg tacttgcata tttattgcag tgttacttat accaataata 900
ccgagggcctt gctttgaggc acacactgag caatagcaat gtacagacct catttggatc 960
ctgatttcat aaactgtaaa ggaaaaacat caggacagtt gggaaaagtt gaatactgaa 1020
tatttgatgt taaagggtga ttgttaact ttagttgaag aggtctccat cttcttgaga 1080
cacacactga ctttccaac ttcacagagg aaatgggttg gtgtctggca tttgcttttt 1140
aataactcag tgagggcagg gggccccggg aagagccaag gtggcagagt ggctggaagt 1200
ggacagtggc tgaagctggt aatgggttca ttagacagtt ttgtttttt tgtttttttg 1260
aggcagagtc ttgccctgtc ggcccaggct ggagtgtgat ggtgcgatct cggctcagca 1320
caagctccac ctcccgggtt cacaccattc tcctgtctca gcctccaag tagctgggat 1380
tacaggcatg cgtcaccaca cctggctaatt tttgtatit ttagtagaaa cggggtttca 1440
ccatgttgtc caggctggtc tcaaactcct gacctcaggt gatctgccct cctcggcctc 1500
ccacagtact gagattacag gtgggagcca ccacgccag catagactgt tcttactcct 1560
gttgcattgtc tggaattttt cttgataaaa aaatttggaa aaa 1603

<210> 141

<211> 2235

<212> DNA

<213> Homo sapiens

<220>

<223> nbla20688

<400> 141

```
aagtgggtgca catgtatttg ttaaataagg tcacccatgc tttgtcttta gattccccag 60
gcaggattct gtaccttttt aaaaaaatat atttaatttt atttacttat ttatttattt 120
atttatitac ttatttattt gacagagtct cgctttgccca cccagtctgg agtgcagcgg 180
tgcaatccca gctcactgca acctccgcct tctgggctca agcagttctc ctgccttagc 240
ctcctgagtg gctgcgactg caggctcgtg ccaccgcgcc cagctaattt tgtaattttt 300
gtagggacgg gatttcccca tgttgcccag gacggctctc agctcctgag ctcaggtgac 360
ccgcctgcct cggcctccca aagttctggg attactggcc tgagccaccg tccctggcct 420
tcagtcaggg ttctgtctgt tgactctcca acctcgaaag cagcagcggg attgtttctg 480
agaaagtitt ttgcatgtgc ttaggaaccg taacaagcct ctcttcataa ggataggaag 540
aagcccaagg gcattagtgg gaggcggata agggagccta acttcccagt ttggctatca 600

ttctttgcaa aatcacttct aatctccaaa gaggaggggg tttctcctct ttcaagttgc 660
ttagaagggc acccacagat ctgcttattt ctcacagcat ctctctgccc ttgcaatctt 720
tcctctccac ctcaccatcc acttttagtg caattagtga attcttttct gtttttcaca 780
caatcccttt ttgtcttatg ttgggagggt gctgaaatcc ctttagaaac aggtcactgt 840
tattctgaca ggtggccagc cttaaagcctg ccttcatctc catcatitaa gtaaataaat 900
accgtgacct aggtcttaag tagggagaaa cggaagctgg gaggatttgg gatttgtcaa 960
ttgcagataa aacacttgct gtgtctcaga ataatgcccc attccccact ctcatccagc 1020
aaggatgtgc agctttggca gaatcaacat ccagatatta ttttgcttcc tagtctcttt 1080
tcatgtctta ttccactttt cctgaaagtt ttaagatgct ttctgtgtaa ttattaaaca 1140
aaagtgaatt aagatctact ttaaggatt tggccatgag gtgaggcatt tggaaacact 1200
gctaggtatg gggcaggaac aattgcttgt ggggaagggt ccaggatggg atggtcctaa 1260
tgtgtgggtt cacggaaggc cccaggacca ctcttgatg tcaggttctt agcacaaaac 1320
atttttgttg ttgtttgctt ctgtgtttgt ttgtttgttt tattttgttt tctcctatct 1380
tgcatccaat agcaggatgt gtcggccttc tagcatggct cttccagaag tttagagcta 1440
ctttccctc cttttctaa gtgtccctc taccttctc ctcttactt gcttttccat 1500
gggagagaaa aacactgatt cagaaaactc cctaagaagc tccaatcttc cctggtgccc 1560
cagtaaagtc agcctctgga gatcaggaga ggttcagaga ggatcagtgg tatcaccatg 1620
gtcacagagc aattcaaaga taatgcccc ctttggcatt tggacattcc attttgagca 1680
tgaactgatt tttagccttg acattcagaa ataatcaaag atggagagat cagttttggc 1740
ctgacatagt gtgattttgt agcacaggac cagctgcca tctgtgaaga gaaaacaaga 1800
ttatttgaaa gaaacctcag aatctgaggt ttcccatgaa tgttcccatg aggattcatt 1860
ttccttttct tcaaccgtc cacctgcaac aattccaata ggcttccaat tcctccttct 1920
acaagagaga tgggtgctca gtttctacct tttctacctc agaactgat ggctgtttgt 1980
catgcgtttt gacatacatg tgtatgtcag gtctggaagc tgttgggtgt tggtaagagc 2040
ccccaacttt ggaatcagac atgctgggta gccttggatg tgctcttita tttctctcag 2100
cctcagattc cacacttgta gaaaaggaat cattcccac tcacagtgga tttgtcagaa 2160
ttgatacatt aatatcgaca ggaccctggg tggaggattt ttattctgtc aattgtaatt 2220
tcctaaagag aaaaaa 2235
```

<210> 142
 <211> 1952
 <212> DNA
 <213> Homo sapiens

<220>
 <223> nbla20755

<400> 142

```

tttgaaaccc agtgaactgc aggagtatgg ctttggaatac tcttggaatc taatttgctt 60
tgtaaaatag ggaatatttc atttgtgtct tcaggcaaga ggtaaatagt tgatttcttg 120
tgatctttgt cagttctgag ctgttgagta gtttagaaat gaagcttaaa ctagacctga 180
tagcctacta cagtgttaaa atacatatga aaagtcaagc atagagtcta atgaatattc 240
ctgcctctta caaaggtaga aatgatactg cctatggtat tttttttgt ttgagtgc 300
atccaattca tgaatttgtg cattttagtt gaccagtgtt taatatttag gaatagttag 360
tacctaattc atgatgacct ctgttcttag catattgaag gccagctatc attaaagcag 420
tgcttttcac agaattggtt tgctgacctc ctaaatagaa gtgtggatgg cagaagcatc 480
aaagaggatg atcacaagtg gggaaggcag aaattttaaa agaactgact gaagtaactc 540
ctctactaat gtgacacat ctctatcccc cacaaccct tggaaatact agttttggga 600
gaagagagga gtatggtgac tagaaagtag ctataacctg ttgatcatg tatactttat 660
aaggcagtga gtcagaagat atgtttaaga aatggaagggt tgttgagta gctctgatga 720
cagatgctta tcataaggca aacttaatat atgttccaca gtgttcagaa taccacttgg 780
tcggtggact tttaaatgtg tgcatactta atttttaata aaccgtagac atggtatatt 840
taaacatact gtttcattta agactaactt ttaagaaatt tgctatcacg tggttcacat 900
atgatgtaca agtgtatagt tgcattgagat aaagctggaa gatgacatga aaaattta 960
tgtggtagtc tcagagtaag agtaattggg gagctttaaa ttttaatttt gtctgtgtt 1020
tcagatttaa gtattaatgt aattgcacaa attacaaatg tttaaaaagt gaagtgaatt 1080
tatacaatct agaagtgtt tgtttcttcc tggaaatgagc aaaataaaat tagctatcgc 1140
ctgcagcatt gggaatctaa gtgttgacat ctaagggtgag tgatataaca atgctgggag 1200
cagggtgaaa tggtagataa accaaaatgc taacattttt cttgaaagt acttgagttt 1260
catgatagtt ccagaagagg ataacaaatt cccatttcat aacaagtaaa ttaaaatatt 1320
tccttatgaa ctgcaactt agtgggtgca gttacatact aatctcttcc ctgcttcat 1380
ttcctgttag aataccagag taaaagtgggt ctgattctag tcacttttga aaagcaaaga 1440
gttgtaggtt acagctgaat tttgaggctt tacagtaaga gaaacagagt gactctgaca 1500
aattttaagc tcatatattt tctttttaga aatgtaggaa ctctgcacaa ataatttaga 1560
aacaatttac caatttcaat acaaaaaatt ttgcaggata gtggaatttg taagcttgc 1620
ataccttgat tttttgaatt caccttttcc caaaagaaag caactgttgg ccaggcacag 1680
tggctcatgc ctgtaatcct aacacttttg gaggtgaggt tgggcggatc atgaggtcag 1740
gagatcgaga ccaacctggc caacatggtg aaaccccgtc tctactaaaa atacaaaaat 1800
tagctgggac tgggtgcaca tgcctgtaat tccagctact tgggaggctg aggcagaaga 1860
atcgcttgaa ccaggagatc ggaggttgca gtgagccgag atcatgctgc tgtactccag 1920
cctagcgaca gagcgagact cgtctcaaa aa 1952

```

<210> 143

<211> 1605

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21013

<400> 143

```
aaatccagta ctcggttaca ccagaagact ctgatctttg cccccgaaaa ctgtcctact 60
ttatccttat acctgaaatc actgcatacc tgaaatcact gcagccctac tgttttacct 120
ataccattaa tttaaaaagg catctatttc tttatagaaa gaaacattca cagtgaggtc 180
ttagtttggtg aacctcaaaa tccagatatt aatccacttt agttattact ttgtaattgc 240
ttctcagtca ttggctgata atgcaatggg gtgataaatt tgacttatct ccacatacaa 300
aagtcgatca gaagggatag ttctcttcct ttttttcccc tcctactggc tcttactgtt 360
ttctaatactc cagtgtaaat ggaatgaaca catctatagt taaggtaaat gccaccaatc 420
agaagattga gtgatttact gcttgtaaag caactgtctt tgaatcttat gaaatagggtg 480
gtgttgctac cacagaagcc aaaaaggctt taaaattgga aatagatgtc tttattgtac 540
ttcagccaac agcaagccag gggaagggaac atacataaat atgacaggtc atatatgaaa 600
tttggtcttc ctctatcaa agtagcctag gagcttgagg gaagcctaata taactaaaac 660
aggaaaaaag catactcatc tgatgtaaaa actcatcagc tgtaaattac caacattaaa 720
ccagaagtca ttaccagtta aaatgtgtgg ttttcactct attcttaaat aggagagggtg 780
gacagtagtg taagtaacat tgctttaaag acataaagct tgtcctggta aacatgggtc 840
aaatgagaaa tgcctccatc ttttcaggta gaaccagatt tcaggcatag ctgagctaca 900
tctgtatttg aaatacaata aaaatatttc ttatgtctct gtattctctt ttaaaaagaa 960
ctgctgactg gtcctgtct cttcagtaac actgattttt ttttaaagaa gtgatattgt 1020
ggactctgtt gtagaagaat gagcactagt attcagcaac aagtgcatt tctccatgtt 1080
atgttgagct ctgttgaggc ctatggtagg tatttgatgt gaaaaccttg ctgtgggaat 1140
tttttattct tccttttccc cccacgccag ttcgttttgg taagtctttt atttgaacac 1200
aagacgcatg cttttttaaa cctctagttt ttgaagtaac tgtagaagag aatctttaaa 1260
aaaaaatgga gggcagaatg cttgttagca atctgaaaaa caaagctgaa caagctgctt 1320
aaagtttctg attaagaagt ttaaaaagaa aaattaattg ctactgcttt ccaggtaatt 1380
gtattattag tttctgtata aaagaaacat tattgctgtt gtataaataa aattttcctg 1440
tggtacaatt aagtattgat ttttcagaaa ctgtccctat aaatcttttc acatatttcc 1500
atgtgctgtc caaaacaaaa attattgaaa tgtctaactc gtgagattat atactcctgg 1560
taaaatattt ttgtatatat aaagaaatat ttactattgg aaaaa 1605
```

<210> 144

<211> 1534

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21172

<400> 144

ctataaatat ttcaatcctt accttcaaat gtatatatt gtgcacttca cggagttaga 60
 gtgagaatgc tatgttcagc aggtgtctt aagttaaaca ttcagactta gaaaaccgtt 120
 agtccacatt tggcatattc acttagaaaa atacaggata ggatgcagca agtagggcag 180
 tgccaggcat tccacaggga tccttgtagc agttcacgca gcaatacaac ttaggtctga 240
 gatgtgagat ccacatcacg caagtgcaca agacacctgg ttttaaaagt tttatgacct 300
 gttaccaca ggcatagctt ctaagcttcc tgagacatat gcctcttatg tcattgcact 360
 taagatgtag ggtctccatt ggatacttta gtttctcca gtgaagacgc aatttaccag 420
 tcaaatcatt tttaccaca gcaatgttgt aacacagttg acatactagc cttatcaggg 480
 tgccagagaa acaactagaa attaatgaa aggccaaatt cccacacaga aggggaaagt 540
 tcttattaaa cagtttatag tagtccctac aagatttggg gctgggggcg gggagttcaa 600
 tgaaatagta ccaaagggtca catggaagaa tgtacttaga aatgaataaa caatcaggaa 660
 tagagtccag actagatcca agtacctatg aaaacttaca tgggctgggc gtggtggctc 720
 atgcctgtaa tcccagcact ttgggaggct aacgcaagag gatcacgtga gcccaggagt 780
 tcaagactag cctggacaac atactgagat cccatctct acaaaaaata aaaaattacc 840
 tgggtttggt ggtgcatacc tgtagtctta gctacttagg aggatgaggt gtaagttgag 900
 cctgggagat ccaggctgca gtgagccatg gttgtgccac tgtactccag cctagctgac 960
 agaatgagac cttgtctcaa aaaaggaaag aaacataca tacttaaatg ataaaggtag 1020
 cattttatit ttatgggaaa atgacagatc agtaaagaat ggtatatggc tatttggaag 1080
 aaaatagatt tagactcttg ctccatacaa tattacaaca atacaaatta taggtgggtt 1140
 aatatataaa tgtaaaaaaa ctatatgtta ttggcaacc atgataataa tagttgataa 1200
 ggcaagactc tgattggtac taaaactagt acataaaaat ttcaggaata ggccaggcgt 1260
 ggtggctcac acctgtaac ccagcacttt gggaggccga ggccagtga tcacctgagg 1320
 tgaggagtgc aagaccagcc tagccaacat ggtgaaaccc cgtctctact aaaaataaaa 1380
 aattagccgg gtgtgggtggc acacacctat agtccagct acttgggagg ctgaggcagg 1440
 agaatcgctt gaacctggga ggcgagggtt gcagtgagcc aagatcgtgc cactgcacta 1500
 caacctgggc aagagtgaga ctccgtctca aaaa 1534

<210> 145

<211> 3171

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21200

<400> 145

gacagagtgc aaacaactaa agtataccac gggagaaggg gaaggaagtg ctgcattaga 60
 agtgcaagca aactgcaatg gaagcaaaga agtgatgaaa ttctaaagag aacagtcagg 120
 actgcaaat cacattgtta caccatgagg aaacaactg gagcaagaaa catcccagag 180
 aagtaactag ggtagataa aggataatgc catgggctac caagaagcaa caagacgggg 240
 atatttttct tcaagcacgc catgtgagtc acagataata gagtcgggac attgggctca 300
 gccagtcaa actcactgct caacagaacc tgtctttttt tttttcctt tttctactat 360
 tttcttttct tgtgttaagg taaactacta ggtactgttt ttaatttagt ttttaattat 420
 gatctaagga tcagtactat ggaaacacac ataattatat aagaaagtat tgcacatata 480

aagcattatt tattttataa tattaataa atggcaacaa tctaattgtc aatagtaggg 540
gaaaatttac aaaactttac tgtctgtact taacaggata ttctccagct actaatgggt 600
gtttatgctg aattagaaca ggaaaaaatg cccatatttt aatgttaggt gagaaaactg 660
ggatgcaaaa ttaccatag agtgtgatca aaagcaaaaa gctagtgcac tttttagcaa 720
caaaatgtat cagtggctgt ctttgtgtag ggggaaagag gaggctagaa aatagtattt 780
gttgagtcca accaactaat ttgttcaatg ttctttctg tcgtaaaggt tttatttgc 840
attttaatat atgttttgac cagatgtggt ggctcagggc tgtaatcca gcactttggg 900
aggctgaggc aggtggagta cttgaggtca ggagttigaa accagcctgg ccaacgtggt 960
gaaaccccgct ctgtactaaa atacaaaaat tagctagggt tagtggcgca tgccgttaat 1020
cccagctact tgggaggctg aagcatgaga atcgcttgaa cctgggagggt ggaggttgca 1080
gtgagccaag atcacgccac tgcaactccag cctgggccac agagtgcagat tccgtctcaa 1140
aaatatatat aagtaagtaa aataaaaaat taaagatgta tatatgtgta tatgcacaca 1200
gacacacaca cacacatata tatgttttga tgagcctcta ataaggcact taagggaagt 1260
ttaatgattt agttatatgg ttattttctt ggaaaaaaa atcgaggttc ctaatcatta 1320
agggatatta gttgtcttga agattgacat atgttaagca cacctggaat aacaacaaa 1380
tttggctggt aggtataacc caatgagtaa aagacaagga tgtgcattat gacatagcca 1440
cagtgcagcag ggaggagctg cccatgcaca caaactcaca cattcctgca cacaggcata 1500
cctcagtaat gaaaccacgt acccctaagg actgagagcc aatccatggg agagggtttt 1560
aaacgcaaaa acacataagg tgggcagaga tccgagactc attttatgta gtatttttca 1620
atcgcggttg agagcattgg gtagaaggac acttctagat gaagtcgaaa gtggcaacag 1680
tatatctaga gctgacagct ggtgttgtaa aatcttctg aaacaatgtt ggcaccgtgg 1740
ctgtgtttct cttgtcttcc tgtctgtctc tggccaggt tgccctatgc tcttccctt 1800
atttcttatt ctttttctg gcctcagtc taggggaagt gaactgtgta cccagggtgtg 1860
tatctggcat ttctctagca ggttttttaa taattttatc tatcataatt atttcatca 1920
ggacagaaat ctttccatat tctttatcaa gatactctat catgaaaatt gtcaaatata 1980
tgcaaaaaa aagagaatga cccttcatat accattactc agatacactg agtaccaga 2040
ttttgcata ctgagttcat ctgtcgtctc cctcttttt gtcaaagtaa aaatctcaga 2100
tgtgtcattt cacccttatt tacttttaggt tatttctcag aaaaatggag agttctcata 2160
taacaatgat gctattatca agcctaacaa tattagtatc atctaatacc taaccataa 2220
tcaaattaac tcaattgtcc caaaacagcc ttttccaagt aggttttgtt caatcaggat 2280
cccgacaaaag tccacacatt acattgggtg ttatatctct tgagtccttt taatctgtct 2340
ctgttctctc actctcccc attaacacat tagggaacat gttttgaata atttgaaac 2400
atagccatcg agtactctta ggaaagagta atggggttga ggatggttaa tttagcccat 2460
cctaacttct gtgagatttt tticagaata ttttgatgg ttctctcact tttgttatta 2520
agcatttggg aagaagattc tgcagcctac tcagggtgagc caatctcatg gcattgaaca 2580
gagaagatat gttttcacgt ctctaaccag tgttttcat agtgtaagtc aggcctttct 2640
cctttgatct aagtggaacc aagaggtag atactccctt ttcttttagtt atattatggg 2700
cttcatgtaa ctccaaattg tatttcttcc tcagctattt atatatattt tttgggtgtg 2760
gttctattgt ttacaaaatt taagcaagag gttgaatagc agagtgcata agagcaaga 2820
ctgtctggagt caaatcttga ctctgggccc ggctcagtg cttatgcctg taatccagc 2880
acacgcctgt aatcccagca cagccttgta atccagcact ttggggagcc aaggtgggaa 2940
gattgccaga agccagggtgt ttgagaccag tctgggcaac aaagtggagc acccatctct 3000
gttaaaaaat taaaaattag ccaggcacag tgatgtgcac ctatagtcac agctactcca 3060
gaggctgaga caggagatc atttgagccc aggagtttga ggctgcagtg agctgtgata 3120
gcaccactgc actccagcct aggcgacgga gcaagacact gtctctaaaa a 3171

<210> 146
<211> 2002
<212> DNA
<213> Homo sapiens

<220>
<223> nbla21255

<400> 146

```
atgttttggg ggattaaaag tggaacagat tcaagggtat tagctcaatt ctgagctgtt 60
ttgagtttca ctcagcaaag gtgggtaaga aggaggctac ctctgagct gtatgttaat 120
acttcttata cttatttata caagttcctg aggtctccaa ttgtcccaga ttaggaagg 180
ctgcctgtgt ttttatgtta ttgacagggt ggatgaaaaa actaaaacca aatattttca 240
tgtgagcagg gattagaggt acctgggatt tagggaaggt gaacgcagta caagtga 300
tttttcccta aacttcattg cttctagacc agcctgaagc ccctgtgtat ctgttaattt 360
agtctggtgc tttgttgcct cctgatttag ggacattaga tgagaagcag taggcctaag 420
aaaggggagg taggtggcat ccatgtgtgg tctgtagttc aggacaggaa aggggaatatg 480
tttgtgcctg ttgagggtca tcagaaagga gacttcagga gagaatttgg cttttggggc 540
ctctctctgg agtgagacta ttcttcattg atgatgttca gattgtgggt gtctccccta 600
ctcccagttg ctctgacac tatcaacaat catgtgaaga ctgtgcgaga agagcagaag 660
aatctacact tctttgcacc agagtatgga gaagtcacta atgtgacac agcagtggac 720
atctactcct ttggcatgtg tgcaactggg atggcagtcg tggagattca gggcaatgga 780
gagtcctcat atgtgccaca ggaagccatc agcagtgcca tccagcttct agaagacca 840
ttacagaggg agttcattca aaagtgcctg cagtctgagc ctgctcgcag accaagagcc 900
agagaacttc tgttccacc agcattgttt gaagtgcctt cgctcaaact ccttgcgcc 960
cactgcattg tgggacacca acacatgac ccagagaacg ctctagagga gatcaccaa 1020
aacatggata ctagtgcctg actggctgaa atccctgcag gaccaggaag agaaccagt 1080
cagactttgt actctcagtc accagctctg gaattagata aattccttga agatgtcagg 1140
aatgggatct atcctctgac agcctttggg ctgcctcggc cccagcagcc acagcaggag 1200
gaggtgacat cacctgtcgt gccccctct gtcaagactc cgacacctga accagctgag 1260
gtggagactc gcaaggtggg gctgatgcag tgcaacattg agtcggtgga ggaggagtc 1320
aaacaccacc tgacattct gctgaagttg gaggacaaac tgaaccggca cctgagctgt 1380
gacctgatgc caaatgagaa tatccccgag ttggcggctg agctggtgca gctgggcttc 1440
attagtggg ctgaccagag ccggttgact tctctgctag aagagacctt gaacaagttc 1500
aattttgcca ggaacagtac cctcaactca gccgtgttca ccgtctctc ttagagctca 1560
ctcgggccag gccctgatct gcgctgtggc tgtccctgga cgtgctgcag ccctcctgtc 1620
ccttcccccc agtcagtatt accctgtgaa gcccttccc tcctttatta ttcaggagg 1680
ctgggggggc tccctggttc tgagcatcat ctttcccct cccctctctt cctccccctt 1740
gcactttgtt tacttgtttt gcacagacgt gggcctgggc cttctcagca gccgccttct 1800
agttgggggc tagtcgctga tctgccggt cccgcccagc ctgtgtggaa aggaggccca 1860
cgggcactag gggagccgaa ttctacaatc ccgctggggc ggccggggcg ggagagaaag 1920
gtggtgctgc agtggtggcc ctggggggcc attcgattcg cctcagttgc tgctgtaata 1980
aaagtctact ttttgctaaa aa 2002
```


<210> 147
<211> 3112
<212> DNA
<213> Homo sapiens

<220>
<223> nbla21345

<400> 147

```
agatttttag caaatacccc ggctcgcaact acccggagat cgtgcgctcg ccgtgcaaac 60
ccccctctaaa ctatgaaact gccccgctcc agggaaacta cgtcgcttc ccctcggacc 120
ctgcttattt tcggagcctg ctgtgcagca aacacccggc ggccgcccgc ggggccactt 180
gcctggagag gtticatctg gtcaacggct tctgccgcc tccgcaccac caccaccacc 240
accaccatca ccaccaccac caccaccacc gggcccagcc gccgcagcag agtcaccacc 300
ccccctacca ccaccggccg cagccccatc tgggcagctt tcccagagac tgcagcagcg 360
actccgagtc cagctcctac tcggaccacg cggccaacga ctccgatttt ggctccagtt 420
tgtccagctc cagcaattct gtgtcctcag aggaagagga ggaggaggga gaggaggagg 480
aggaggaaga ggaggaggag gaggaggggg gcagcggggc ctccgattcc agtgaagtca 540
gctcggagga ggaggactcg tccaccgagt cggactccag ctccggctcc agccaagtgt 600
cagtgcagag catccgattc aggcgcacca gcttctgcaa gcctcccagc gtgcaggcgc 660
aggccaactt cttgtaccat ctggcctccg ccgcccgtgc aaccaaaccg gctgctttcg 720
aggatgccgg cagacttccc gacctcaaga gtagtgtcaa agcggagtcg ccggcggagt 780
ggaatctgca gagctggggc cccaaagcat ctccggtgta ctgccggcc agcctgggga 840
gttgtttcgc tgagataagg aacgataggg tatctgagat tacattccca cactctgaaa 900
tttccaatgc tgtaaagaga aaggcggtag tggcggaaga ggttcggcgg ctgatggcgg 960
atcaggatcg gaagcctgcg taactttctc ccttgatccg ggagtcttc cactggattc 1020
acaatgacat ctttcaaga agtcccattg cagacttcca actttgccca tgtcatcttt 1080
caaaatgtgg ccaagagtta ctttcctaat gcacacctgg aatgtcatta caccttaact 1140
ccatatattc atccacatcc aaaagattgg gttggtatat tcaagggtgg atggagtact 1200
gctcgtgatt attacagtt tttatggctc cctatgcctg aacattatgt ggaaggatca 1260
acagtcaatt gtgtactagc attccaagga tattaccttc caaatgatga tggagaattt 1320
tatcagttct gttacgttac ccataagggt gaaattcgtg gagcaagtac acctttccag 1380
tttcgagctt cttctccagt tgaagagctg ctactatgg aagatgaagg aaattctgac 1440
atgttagtgg tgaccacaaa agcaggcctt cttgagttga aaattgagaa aacctgaaa 1500
gaaaaagaag aactgttaaa gttaattgcc gttctgaaa aagaaacagc acaacttcga 1560
gaacaagttg ggagaatgga aagagaactt aacctgaga aagaaagatg tgaccaactg 1620
caagcagaac aaaagggctc tactgaagta acacaaagct taaaaatgga aaatgaagag 1680
ttaagaaga ggttcagtga tgctacatcc aaagccatc agcttgagga agatattgtg 1740
tcagtaacac ataaagcaat tgaaaaagaa accgaattag acagtttaaa ggacaaactc 1800
aagaaggcac aacatgaaag agaacaactt gaatgtcagt tgaagacaga gaaggatgaa 1860
aaggaaactt ataaggtaca tttgaagaat acagaaatag aaaataccaa gcttatgtca 1920
gaggtccaga ctttaaaaaa tttagatggg aacaaagaaa gcgtgattac tcatttcaaa 1980
gaagagattg gcaggctgca gttatgtttg gctgaaaagg aaaatctgca aagaactttc 2040
ctgcttaciaa cctcaagtaa agaagatact tgttttttaa aggagcaact tcgtaaagca 2100
gaggaacagg ttcaggcaac tcggcaagaa gttgtctttc tggctaaaga actcagtgat 2160
gctgtcaacg tacgagacag aacgatggca gacctgcata ctgcacgctt ggaaaacgag 2220
```

aaagtgaaaa agcagtttagc tgatgcagtg gcagaactta aactaaatgc tatgaaaaaa 2280
gatcaggaca agactgatac actggaacac gaactaagaa gagaagtga agatctgaaa 2340
ctccgtcttc agatggctgc agaccattat aaagaaaaat ttaaggaatg ccaaaggctc 2400
caaaaacaaa taaacaaact ttcagatcaa tcagctaata ataataatgt cttcacaag 2460
aaaacgggga atcagcagaa agtgaatgat gcttcagtaa acacagaccc agccacttct 2520
gccttacttg tagatgtaaa gccatcacct tctgcagcag aggagattt tgacatagta 2580
acaaaggggc aagtctgtga aatgaccaaa gaaattgctg acaaacaga aaagtataat 2640
aatgttaaac aactcttgca ggatgagaaa gcaaaatgca ataaatâtgc tgatgaactt 2700
gcaaaaatgg agctgaaatg gaaagaacaa gtgaaaatg ctgaaaatgt aaaacttgaa 2760
ctagtgaag tacaggacaa ttataaagaa gatgagaatg tgcctactgc tcctgatcct 2820
ccaagtcaac atttactgg gcatgggaca ggcttttgc tlgattccag ctttgatgtt 2880
cacaagaagt gtccctctg tgagttaatg tttcctccta actatgatca gagcaaattt 2940
gaagaacatg ttgaaagta ctggaagggtg tgcccgatgt gcagcgagca gttccctcct 3000
gactatgacc agcaggtgtt tgaaaggcat gtgcagaccc attttgatca gaatgttcta 3060
aattttgact agttactttt tattatgagt taatatagtt tagcagtaaa aa 3112

<210> 148

<211> 1921

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21410

<400> 148

atacattttt tttttcttta agaaaagggt agctttttat cttgcaggct tttcacccctg 60
gttttgataa tggctctcat tccttaaaat aagtatccct aaacacaaa gggaaggaaa 120
taattattga gaggtttttag agaccatttt tcatttttaa aaatgatatc agagtattga 180
gaatagctag ttttcttaga tgctgttttag aagatagaga tggagaagaa tattattcca 240
agcatacatt aatgtcacca catttagttt ctttaaatgc ctttgtttaa acttctgatg 300
tttgatttaa aaatactttg aaactgctgg atgacatata aataacattt cttaatcatt 360
acataattctc aaaaattccc caaattagcc aactacatta gaggatttt tgataagaac 420
atctgaggcc aggcgcattg gtcattcct gtaatcctag cactttggga ggccgagatg 480
gtgtatcgct tgagctcaag agtttgagac cagcctgggc aacatgggtga aaccccatct 540
ctacaaaata taaaaaaatt agacatagtg gcttgtaact gtagtcccag ctacttggga 600
ggctgaggca gccagctac ttgagctcag gaggtgaagg ttgcagtgtg agattgtgcc 660
cctgcacttc agccaaaaaa aaaaacatct gtagtgagca gccaaatgta ctataaaatt 720
tggtatttta tcctacatga ttttctgtc attgaaaaat agtattttgc agtaggatgt 780
tcagtacta cttattaaat gtatagaaga taacatagct aaggaagaaa actaccattt 840
ttggcaggga gaagtggaaat ttaatagaaa tcattgattt tcatgttaat agtatatact 900
tatgaattat accaagaatt gacctatta gagatacttg gttgaaatac tcaggattta 960

atgtgtagat aagttcttta taatgtgagt tatttttagt cttggtggtt ttgttttgtt 1020
ttcagttttt atttattttg atttggaat gggagctggg gacatcaaag ccatatagtt 1080
tagaaaattt cacattactg aaataatctg tatccacaat agtaagcatt tcttcttttc 1140

ttgctgtaat ttcatgctcc acctacaata tggcttttac tttttttta ttttttattt 1200
 tttttacca aggaataaat tatcctgaca gtctttaatt ttgggtatgg attagttaaa 1260
 tgtaaggatt gttgatttga tttagtaatg tgagacacaa tgtttatgtc ctcattatct 1320
 acagtagatg gatagttttt tctcctgggc tctaagaata gtatttctta atgtgtggcc 1380
 catgattggc attaggcgtt tttgcttgac cacttgtaa acatgatitit tttctaggta 1440
 gtgtttgcca tttgaatgtc tttgtggaaa cagactcctt aatagcttag ctataatttt 1500
 ctaagttaac atctttacct gccttgtttt ttttaattctc ctaatcttac taatacctta 1560
 gcattagttt tgcttccatt atcagtgcct ccaacttctt gttttatgtg ctttaaaatg 1620
 attatatatg ggctgagcat ggtggctcac tcctgtaatc ccagcacttt gggaggctga 1680
 ggtgggtgga tcacttgagg ccaggagttc cagactagtc tagccaacat ggggaaacc 1740
 tgtctctaca aagaatacaa aaaacattag ccaggcatgg tgggtcatgc ctgtagtccc 1800
 agctacttgg gaggtgagg caggagaatc gcctgaacc agaaggcaga ggttgcagt 1860
 agccgagatc gcgctactgc acttcagcc tgggcgacag agtgagactc cctctcaaaa 1920
 a 1921

<210> 149

<211> 2099

<212> DNA

<213> Homo sapiens

<220>

<223> nb1a21522

<400> 149

tttaaattca gcttgtgact ttgcacttca ggattctgag tgttctctgt cttcttccctg 60
 cattgttttt cttataccat acaggttttt cattggcctt gactttttgt tgtaactca 120
 ttcttctttg ggttattttt catttgtttc tgcgaatat tatttgtttc aaactaaaaa 180
 taacattcca cattttaatt gatgtcgga ctcttaatct acttaaaatg tgggctgaag 240
 ttccatgatt ccagctagtc tggaataggt catttaactg gatgttaatt cacctacatt 300
 gttccctaag tgacatgtgg gtccatttct gctgacatat ttgtgggtcc tggtacaac 360
 catttgggta gatttgctga ttctctttt ctcttagtg gaagagaaag ccaataccca 420
 cctctctttg ggcatgtgct tagacgcctg tgcctgctac cttctgttct ccaagcagcc 480
 gtcacaggca caaaggatgt atgaaaaagc tctgcagatt tctgaagaaa tacaaggagt 540
 gacctggcta ctaccctgga tgcacagggc cgctttgatg aggcctatat ttatatgcaa 600
 agggcatcag atctggcaag acagataaat catcctgagc tacacatggt actcagtaat 660
 ctagctgcag ttttgatgca cagagaacga tatacacaag caaaagagat ctaccaggaa 720
 gcactgaagc aagcaaagct gaaaaaagat gaaatttctg tacaacacat cagggaagag 780
 ttggctgagc tgcacaagaa aagtagacct ttgacaaatt ctgtcaagct ctaaatccat 840
 ttttgtgtag ggagaataat gtctagtaat gtggaagaat agctatcatt cctgtctctg 900
 tggcaccgca tcaatggctt aaatctgtcg ttttgatat tcaggtttcc tcaatttagc 960
 cttagtgaag gaggggttgt acacactgcc atttttgtat tttaaaggaa aaatgacttt 1020
 cattcccaac tgattatgac ctttcaggat gtcgtcaagt gatgctttca gttgtaacac 1080
 gtgacttggg gctgtccctg ctggtctaag tagaactgta gattcatatg ggctgggtgt 1140
 cctgtgcgct gtgggtgtgg tgattcagcc tggcatttct accataagtt tttggtctgc 1200
 tgatttgctg ccctgtcttc tcttacttta ctttatcaat acctggcaaa ctgaccagaa 1260

ttaccttcct catggcaaag ggggattatg gtgaattgtt gttcttatag tctgtttcat 1320
gaagcacaag tggaatttaa tacataaaag agaaaaatat cttagtttgc taccagcatc 1380
cagcatgaag ttgtaaagtg gggattagc acgtgacagt atagcaccca tttgaattta 1440
aataaaagtg aaccatattt atctggttat ataaaactaa aaatgggggt gtttatataa 1500
aactaaaaac taagaatgat gtaacctttt gtctgtgtta tctgaacact ctacttcctt 1560
tgcagcctta gtcacacaac tgagtcactt caagtactct ttaaggacac acagcccagg 1620
ctgttctgag tcagaatagg cccctacagg tataatttaa aactcttcgt aattctaattg 1680
tgtactgctg gtatagctga actactgacc tggatcttag tcctagcctt ttgcttttg 1740
caatttcagt atcttcactt ctaaactagg gaaacactgg gattctttct tagctgtggg 1800
ggaaggattt tggtagatg actttgaatg aatagactgc tgtgctgaaa gagctttatc 1860
acactgtctc aaagtatgta aagatacata ggtggatgct cttactgcag cagtcatgaa 1920
tacattttta gccatttacc taaggaaaaa gacagttttt ctaggtacca tgaaggaaga 1980
ttgacctgt tggtagcct gtgggggtgg gatgtgagtg ggactgataa actgatactt 2040
ttggttcgta tgtacatact ggaagaatct tcataataaa tgagactaca caacaaaaa 2099

<210> 150

<211> 2471

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21631

<400> 150

gaacggccct gcggggctgg ccggacggct gcaagaacat gctgagccca aagatcaggc 60
aggccaggag gggtaagtcc aactttcttg ggtttctctg ggcaccgcat gtgcctcttg 120
gcaaactgac gcggacactt ggccagccgt cacgccatgt gtcacatggg gcgggcgttc 180
tgggaccatt gccgtgaat agtgagcatc ctctgagga agtgcccttc ctctgaaac 240
tcctgggctg ggtggggaca cgacctgaag ttgcaaaagg gcggtggccg gcttagtgcc 300
ccagtgggtg tgcacacttc gccccacatt ccacatttta cagaggccct cggtcgtctc 360
aggtgacctg gtggcaactt taaggaaact ttgcttcttt actaaaagg aaatgcccac 420
gatttgccct gtggccaaca cagaagcacc cttaccagg gaaggccatg ccctggcttc 480
tagagacagc tgggtgcaag cgagggtctt cgttccgct gctttgcaga cagtatttcc 540
tcaagcaggc caggggcagg caggctttcc tgccagaaca ctcaaaaagc tgcagggtct 600
gggggcagga cgggtggatg cgggagcaga ctacagaccag caagagatgg gggtcaggag 660
agtccaggac tgggctagcc agcctgtgtc cagccagcga cccagcacag tgacctgaag 720
acttggccac tgtatggggc tagagacagc atctccatgg acaacaactt cttagccacg 780
gaaagtgtca ttttgaatga gaacatctgt cttttacaaa aatagaatgt gtcttttcag 840
gtggccagta tctgggaggg ctgagctcct tttgtaaaac atgaagtgga ggatgggtct 900
ttggagggtg atggagcatt tgctgggag cttggaaca gtttgtgtct caccagggtg 960
ttgcagcggg gggcctccag cctcctgtgg attcacaggg aacacacca tcttattagc 1020
acactgcaag cacttggatg attttcttg atgggaccag cttccagtg tgttccacag 1080
acgtcaggac ccctctgttg ggtgctttcg catgggctga accctgtgta cccaatggg 1140
caaaggagga acttgcattg ctctgctgag gagggggcaa gtctagtgtg gaccaaggg 1200
ataggacaag ccagatacct ctgcgagagc ttagttccac cctccactc ctgtgtaatg 1260

agctggccac tggccacatg tggtactaa gcacttggca tgtcactagt ccaaattgag 1320
 aaaaagacac accaaatgtt gatgatttag tacaaaaaaa gaatgtacaa tatctcaata 1380
 attatittac tgaaatgaca gtatttggga tatattgggt taaataaaaat ctattattaa 1440
 aactaatttt acctgtttta cattctttta ctatagctac tagaacattt acaagtacat 1500
 atgtgactca cattatattt ttatatattc tattggacag tgctagtaag agaccagtgc 1560
 ttcagcaaag gggcttacag gcagcctgtc tttgaaatcc aggatttctc ataaatgttt 1620
 gttttaagtc aatggttctc aaccaggagc aatttgcccc actagagAAC atttggcatt 1680
 gtttgagta tttttggta ttccaactga ggggtgctac tggcatctag tgcgtatagg 1740
 ccagccatac agccctcttc cagtccctcag tgttccatga ggcttccacc atagggttt 1800
 tgcacatcgt tctttccct gaaatgcctc ccacattcac atgtgcgcac atgcatgcct 1860
 gtatgtgtgt gcacatgcgt tcatgcatgc aaacatacac acacacctta attcctattc 1920
 accctccagt tatagtatag ttcaagtgtt gccagccagg gaagtcttcc cacacacccc 1980
 agtccaggct ggatcctctg ctccatctct ccttttcttt atggtattta ccataggttg 2040
 cagtgtgata ctctgagtg tgactgattg gtgaatatct gtcacttgca ttgctccatg 2100
 agcttcgtga aagcaggaac catttctgtt cggggacatc attatacccc caatgccagg 2160
 tacctgggtg aactcaacc tgtgtttttt gactgagtg atgaatagct ggatagagga 2220
 gaaagcattt gcctgggtgg ctggagcact gtctctaccc aagctggccc ggtacttagg 2280
 aaatttggcc tcatctttca ctgactcata tgttgcaaat attttccaa tttgttgctt 2340
 gcccttatt tttatattag agtgggtttt ttttctagat ttacctgtt ttaactcgt 2400
 tatattttcc ttttagaatt tctgtcttg tttgcaatat ttcaaaataa aattgttgat 2460
 gctattaaaa a 2471

<210> 151

<211> 2669

<212> DNA

<213> Homo sapiens

<220>

<223> nbla21788

<400> 151

aaagcaaaact cctacctacc cggcctcgt ggagccttcc tgcggtcctg ccatttgccc 60
 catcctgtag acagggctgc aggaagcagc ccagccagca accagtgtgg agggagaggg 120
 agtccaaggc ccaggccggc ccctcccat ctggggctgc cctgcaacc tcatgtgtaa 180
 cttaggacag ctctatttc cccttggct aaaagggtct acaccagtgt gtcaccactc 240
 ccaaacagtc cccttcttg gcctttgcca cttgttgaa tgaagacctc acctgcagtt 300
 aagcaaaata ttaacatgtg agatgcctt caagatgcaa aaggatattt tccttctaaa 360
 atcacatggg caggaaggct ctgaagatgt tagagcccca gtggactgga gaaagccagg 420
 aagaaagcag tgtgggtcct gcagtagccc ctgcccctc tcctgcctcc tgcctccca 480
 ggacgcccgg ggccgaccg ggccgacct tgcctgctc ctccgttcg cctgggccc 540
 catgctttca gctaccttct gcatcttcag gtggagccca gtgacagata ctgcaggaa 600
 ggagaaagca ttcaaatggc ttaggttgat ggaaagtac actgattaca gccaccatgg 660
 tagatgcttc acgtgtacct taccaaggaa ggcacccag ccacgatcat aggcgactct 720
 acaaacccag ccccttactg aactccaata ggccaggctg gcttcttcca gactcaggct 780
 ggcccttggc acagtgcctg tgctatgtat ccagaggcct gggccacat cctgaccctg 840

```

tttctccctt attggaggcc ctggcatttc cgaaccact cacctctaag aattggattc 900
tgtacagtta aaggaacagt gtcccttccc cgagagggtg agaaaagggtg gccaggaggg 960
agagggtcct gggaggagca tttatgcgcg atgctgagag atgggattct acggaggggag 1020
gcagcattgg ctctcagctc agcaggggct gtgcccagc ccaggacggg tgccttgctc 1080
ctgctgtctg gcaggcgtct gccgcaccc ccacactttg cttttgtctt cagtacacc 1140
tgcctgcccc agcaggaaga gccgaggaag acgactgggg ttggtcagat ggggcctgag 1200
cagtcccttt gccatgctct agtaccatgg ccttggataa gtccagtctg ctctccaagc 1260
ctcagtttct ttctgtgtaa tgtgagcagc tcctatctga aaggtttatt gggcggattt 1320
ttgcaggcca tgggtgtgaa gccctagca cagtgtctga ctgtggtcag aactcagtat 1380
cactggcccc catcttact gtgagcccag gacaggccac acgtcacacg tcacctcca 1440
caaagccccg cagagggtgc ccagggaact cttgttatgc ccagagctca gtgaccagg 1500
ggagcacttc ttgtgtccc cttcccttga gttctccaaa gcaggccatg gccatgatca 1560
caggctgagg agccaggccg ccaggggcca tcctggctct gcctcttcca tgggagcact 1620
ttttcctctg caaagcgggg agcagtcgga cacctgccgg cgatatgaag tctgagcgag 1680
tcaggacagg gggaggccca gatcccaggc gaagatcagt gctctgtccc gccttggtt 1740
ctgggagccc tcctgtcccc tttcctcag ggactggacc caaaccaggc caggccggaa 1800
gactagtgtg gtgtttcaga tgtcacttgg agttgtgaag cttttatcaa agctgagaca 1860
atccctgtta actaaaatcc ctaggacaat gaactgttgt ctttatcca cttcctaatt 1920
atagaagtgt cctgccatgt agtaagtact cagtaaagt tagcatggta gcagataaag 1980
tagaaaatct cttttcccc atgacctcc ttgtgaagag gtttctaaaa gccagtggc 2040
ccttctccct gagtaaagag ggtgtggtaa cttccagaaa cgtttcttgc ctttgagga 2100
tatgtggcac tgagtagtca ccacacaagc tcacccccg gtgcggagat atggctactt 2160
caggaattgg gaggacccc cgctgcgccc ggaatgtgct ctggcaatgg ttgccttc 2220
ttttctgtca tttcctttat ttttgtgtgt ttccattcat ctctgttcc tcaaagctgc 2280
acacagcccc cccttctgct ggccaaggct tggtagcaa agggcctgtc tccggcgat 2340
ctggctttcc tcgctgtcag ccttcagggt ccttgaaagc tggcgaagg ttctgagtca 2400
atgctggggt tgagtgggag tttagaacat cactgcggtg ccgcagtcac tcttgacgt 2460
ccaogtcctc ttggaagttt gaggcaggct cagctcagcc gttcgcttgc gtatcctcat 2520
aatcaggtag aaagtctggg ccggggccag gggcagtggt gcacgcctgt aatcccagca 2580
cttttgggag gtcgaggcag gaggattact tgagcttagg ggttcgggac cagcttgggc 2640
agcatggtga gacccatct ctacaaaa 2669

```

<210> 152

<211> 1969

<212> DNA

<213> Homo sapiens

<220>

<223> nb1a21897

<400> 152

```

gagatttgca aaggcatttt aaagaaacgg tgcctagagg ctgggcgcag tgtctcacgc 60
ctgtaatccc agcactttgg gaggccgagg cgggcggatc acaacgtcag gagatcgaga 120
ccatcctggc taacacagtg aaaccccatc tctactaaaa atacaaaaat tagccgggag 180
tgatggcagg tgccttgaga agtctgagga ctccttgaga atgccttaag gaaaatacgg 240

```

tcagaagggg gttgtcaaca gtgaagtgg gaaaacagcc ttctggaggt gtggctcgga 300
 ggagagcat cgggtgtgc tggtcagatg ccattccccg ttggcgctgt ggaccagctt 360
 taccagtggg gatccgtgc tttccaagag caagccctta cgaagggtga ggtgggcagg 420
 tagggaggag ggaagattta ggaaggaaga ggagcttcaa gaaggcagcc ttgtcttct 480
 aaccagagcc actgagactc taggccatcc tctgctgtgc cccatgggtg ctattttggg 540
 tacttaccac ttcctgtccc cctcctggca tctcacaggt attcaggcag ctttgcaccc 600
 tgggcttccg ttattcctgc tgttgatacc acccacgctc actggtgtca gcagccaccg 660
 ttgtacttgc tcatacgcta gtgggttaga aatggggagc atctgccgag ggatctgtct 720
 tgtggcctga cctgggcgtt gatggctgtg gtcccccagg gcttcgtggg tgtcccatct 780
 gagaaggctg gaagtgtgcc aggggcttca tgggggtcct gcaggacag tccaaggtg 840
 acagctgctg cacctcgagt gcggcctgaa ctggagaggc acctgcacct ctgacatggc 900
 ttggatgct gcacagcatc gtacacactg ctgtgttctg ttggttccag gccagtgcgc 960
 agagctcgtg cagatttggg gggggcctcc ctctcaatgg cagggtgtca aagaacctgt 1020
 ggacatggc atagccaccc cagacgttca ctcccttcca atccactggg agtttccgca 1080
 gccttcccc atctgaatgt actgaagaac tgacaccac catctggtt taaaatgtt 1140
 agaatttgta ataatttacg tattttctag agagtgtgt aacatccata aaaacacaga 1200
 ttttctagga agttactgtg aaatctacaa aagcaataaa acatttcctc ccaggtgtg 1260
 agctgtgagg agagcatcag gggttgggct ctgctgcctt tccccgaaga actcactcgg 1320
 caagccgtca gaagataatt ctgaaacaaa tgcctgccac tctttgatta caaaaatgac 1380
 ggatgagctg tatcaccata tgcctgagaa tctgtgtgtg ttaaaggact tggatcgtct 1440
 tctactgag acgtggcccc agcttctccg tgagctctgc agcacacctg ttcccacct 1500
 gttctgcccc aggattgtgc tggaggtgct ggttgtgtc cgaagcatca gcgaacagt 1560
 ccgccgtgtg tccagccagg tcaccgttgc ctacagctg agacacaggc agtgggtgga 1620
 aaggacgctg cggctctgcc agcggcagaa ctacctgct atgtggatat cagactactg 1680
 tccccgtgc tcagcctgat actgttactc attgcgtgg agttgggtcaa cattcatgct 1740
 gtttgtggga agaattgcga tgagtatcag cagtacctaa agtttgtaaa gtcgatcttg 1800
 caglacacgg agaacctggg ggcttacacc agttacgaaa agaacaagt gaataaaact 1860
 atcaatctta cacatacagc tttgtgaaa atgtggactt ttagtgagaa gaaacaaatg 1920
 ttaatacatt tagccaagaa atccacaagt aaagtactct tatgaaaaa 1969

<210> 153

<211> 2573

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22116

<400> 153

gatatgctgc ttagtttcac taaaagcaga ccctatacct agagaagtca ctggcttttt 60
 attggtcatt ctcaatacag aaatacttag gggagtctta accctgccat ccccggttga 120
 atctcttggg ctttatctaa gctacttgca gttatattc agttaagcaa aggtatggcc 180
 agtagtgcaa gtatctccca gtctctgagc tctgaacaag aggactgaaa ttcagcattt 240
 gtaaaactgac agtttgatgg gcctgggatt tgaagtgaac tcagcacaca attctgaacg 300
 tgtatttgca tgtggactgg gaaggaaata aatgggaact tggaaataat ggaatatttc 360

tcctatgaaa gaatttttcg tagaagattt gtttttgata taatctttct gttggtagc 420
 ttttagtggt ttcatcctt ttctgatcca cactccttta agtgaccaa tgaatataac 480
 ccaacatgca ttgggaatgt gtttaatat aaacaatgtc taactgaatc tgcaaatgcg 540
 ggaactgaga taccacctcc atgtgcacac ctgtgtgtac gagtatctta tacaacttgt 600
 agcatttact gccacttaat tgggttgaac ttgcaagata aacttttggg aactgcttag 660
 tgccatcgga gtctccttta gaagctgcc aagcgaat gctatcccat aataccagca 720
 gtaagcctgg caacatgttc aacagattta gtaccaaga ggaaatcaac agcgatagta 780
 gagaatgagt cagatgtagt gggataaata ctgacctagg aagaaggagc cccggagtct 840
 aatatgagct ttattactaa attgctatgt gacgctaggc aagtcactta acctctccat 900
 ggctgtttcc tcatctgtaa aataagtgt ttggactaga tgatccttag ggtctttcca 960
 aaagtctaac attctatggc attatagggt gccttgcaaa ttcagcctgc tatagtgtatg 1020
 gcaaatatca cgtttaagtc tgagtctctt atgttgcagt taaataaaag aactatgtaa 1080
 gatgattttt aaaattcaag caaatgggcc ggtgctggtg gctcacatc gtaatcccag 1140
 cactttggga ggccaaggca ggcgatcac ctgaggtcag gatttcgaga ccagcctgac 1200
 caacatagag aaaccccatc tctactaaaa atacaaaatt agccgggtgt ggtggcgggc 1260
 gcctgtaatc ccagctactt gggaggctga ggtgggagaa tcgcttgaa ccaggaggcg 1320
 gaggttgttg tgagctgaga tcatgccatt gcactccagc ctgggcaaca agagtgaac 1380
 ttgctctcca aaaaaaaaaa ctcaagcaaa tgaagttcat aataataggg gatgttgata 1440
 aaacttggc cagccttcca attcatttac agttgttctg tttgttttt gttttaatgt 1500
 ccattttctg ttgactgttc ccagttttca tttccatac agtctgtatg taaagtctgg 1560
 tttcattaa gctgtggcca gtatttgcca ctacaacaga aacacactgt cacacttgct 1620
 agaataaac tgtacttggg cttctccttt cctgtgaagt agtgctgggc tttctagagt 1680
 ttaattctca agtggcaca gatagcagag cccatgcatt ttaatggctg agactgctaa 1740
 gagtgaacct aaacacttac aagttgcaga gagaaatgaa aaagtaatta catgctatta 1800
 gcattgagaa atgttgacaa attaatgtgt tgggaacaa agatagcatt tctgatgaca 1860
 actcccacag tgattggcca gttgtatgat gattacactg ctggaaagag ggtaaaactgg 1920
 gagtagtgg atggtcccaa tgccctgcct acagcagagt gccaccagc cctgagtga 1980
 aaattcaagt tcaatgtgtg tgcttgtgtg tgggtgtgct tatggaccg caaataccat 2040
 attcattatt gatgataaga tcttcacaga atcctgtagc tactaatgca ttgagtttt 2100
 aatctcagta catcagccag gaggagccag atcacagggt agtgatgtct actgggatta 2160
 tactcataac atctacacaa aacaagttga gaaggatcca cgttttcatt gttatcaga 2220
 attgtatctc atttggctga gcatctactt tgtcagaatg tgttatctgt aaacctgtg 2280
 tagtgaatt cttctgtaac ttggattaa aggtatttat ggtctttttg tttgtttgat 2340
 ttttaagtaa gttatttctt ttgtagacct gctgatgta tggttccatc cttctgacct 2400
 cagcatcaa tctttttaag gatttttgtt ttcaatattg ttattttaaa ttgtggttga 2460
 agcaatagaa aattgaaata tggattgtgc atgactgtgt cttgagtgtg aaaatattgc 2520
 agtttgaaac ttggacctaa agtattgcaa ataaaaatga caaacatcaa aaa 2573

<210> 154

<211> 3324

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22223

<400> 154

caaacacagg ctgaaaaccc atgctgctgt tatacacaat ggcagtatta acaagcattt 60
taaacctttg cacatgatat tgaacctgtt cagttttaca tgacaatatt aatactgttt 120
atagctagaa gtttgatttc tgaattcttt gagattttag caaacacagtt tattatacac 180
tgtacatttt tttcacagca attggaaaaa aacaaccact tgcaatcatt caataaccct 240
gaagaatttg gttcctgagt gtacaaactc agagcccgga agccaagaag ggtccttggc 300
ctgcacggtc ttagattgac tccaagtctc tgtgagcagt gacttgaacc aaacacacca 360
ggaataatcc attctttggg gcctctttcc aactcgaggt tgttttcttt caagatactc 420
taatcagcca tagaatttag tgtaaatatt tttttttcca aatagatatc atattcaaaa 480
aaggcagcat tcaaattata tagaatctag tttttaaaat cagcacagat cttcttaaaa 540
actgtgaact atgttttgaa atactcgtta ctaaagctgt ttataaacca caggtgccat 600
aagatcccca aacggactaa agttatctct gctcttccat ggtcttggtc ctctcgtttt 660
ggcttttagga agcatgtctt taacagcacc gctcgttcac aagttccccc atcaagttgt 720
ttggaggcct tcagctttaa atgtacaggc ttaaagtgcg cttgcaaacg tttgctctcc 780
ttttttctg aatgttgatt gccttagctg gccacctggt gttctgcatg tagccttctg 840
tggtcatgtg aaaggagaca ggctcttcta agttgagttg ggatttttgc actcagtgaa 900
aagctgaagt gcaaaagagc tatcaaagac aagaggataa aagactggga tagtcttttc 960
caaggaccct ctttagaggg ccctaaagac ctcccttggg aattctgggg aaaaagaaaa 1020
agtaatcttc tacttgcttc aagatttgat ttttttaaaa aagcctgcga cctattcaat 1080
acattatgct taaattagca gtttctctgg aattcctgtc tctcctttta aagaaaggag 1140
agaacatttt agaacaatag ttctcaaagt gtgttcccc gacaagcagc atctgcaaca 1200
cttaggaagg tcttcgaaat actaatgtgt aagccccacc tcaggcctac tgaatcagaa 1260
gctctggggg ttgggtccag aagtcgttt tagtcaaccc tctaggtgat tctgatgctc 1320
gctaaagggt gagaactact gctttagaat gaagtcgtat aataaagtct ctgaaaaggc 1380
cttattcaga ataagcaaga aaggttctgt gattcacttt tgcttctggg gctggcaaaa 1440
accttctctg aaccacaca ccaagttcgt agttggtagg tgcccagcca agtcctgaca 1500
tcttcatgcc cctctgcag agggcggctg tacgatgttc acatgtctgc gtttggtcag 1560
acatcatctc cttggctgcc ctttgaaacc aaatcacttg ccttggggat aaagtgtca 1620
attggcatta gtgagaagcc cactctatcc cttagacata ttaatcatat atctctccag 1680
agaactcacc tgacaaatgt ctctgagcac aggtgacac caaagtggca caactgcaca 1740
gttctcagat ttctttgcac agattgattt ttattgcggg ttttgttggg gtgtcttaat 1800
gttcatctct tttccactgc ccatcctctg tgaaccata cctctctaga tggagcaggt 1860
ggccactggt gcctcactat cagattgaaa accactacat ccagctacc tataatgctg 1920
tcagctcaaa atcatagcca gtagttctt gaactcagaa cttaaactct gcacgtggca 1980
ctccaccact gactggaccg agctggcata tgtgtttct ttgtgtttct acatcaaaaat 2040
gttctgctaa gatttgaact gttctgctga taaccttccc cgttgctata gctatttcat 2100
tgccaaccaa ctccatcaca tgggtgttga tctgctata taaagccatt gcaaggactc 2160
tggaactgc cgcaatgac caattctga ctaaccagcc acctttctc tctcttagct 2220
ccacgtcagc actgagacca gactcgagca cccctgtcct gtaagcgaga caaaatggcg 2280
tgtgttattt tggggttttg tgttttttgg tgggtttctt tcttggctc tccagattta 2340
cttttggggc ctgttctaag tgcaaaccga gcaagtttca cttgtcctgt ccattagata 2400
caactacatc ttgcgggggt tgtttcttct ttgttccaca atgaattgca catccatctc 2460
catcagagct gatagcctgt taataagcac tgggtctaaca cagccaaccc tctccacag 2520
cgccatatta atggaggagg ggaggaaggt gaaatctact gcatgggatt caggaaacag 2580
ttgtggttgg tcaggacgga agttggggta agtttgggtg gtcagaggga gttgtgctgg 2640

agattgtgaa aaatgggttc ttgaatgac tactataagg caggaaggt tcatttgtaa 2700
 gtagtaatgt gaactgaatt gcattaagag tgtgtggcct ttgttggat atactatgta 2760
 ttttcttata tgcattgagc aaactgttgc atcataattt agcactgatg tctgctttta 2820
 ttttgatcat ctttgtccac cttattagt tcttggctgt taaccgtaga tagatcttgt 2880
 aaatccagca accttgggtt gctgcattcc ctttggctcg attccacgca aggagccaca 2940
 agtgagaact ccactgtcct tagaagaaag ggcattttta ctttgaacc aaaaagagaa 3000
 aaaaaaatca gaagtgttgc atcttgaggc gaattaactg taagacattt ttaattatga 3060
 ctactgcaat ttgacaccat ttgaaataat caattcagag aactaaaga tttcacaata 3120
 ttcattggta ttgtaaaaaa aaaatactat tgtatggatt ttgtattgc tgtaagtat 3180
 tgttttgtgt gtgtgtgtgt gtgtgtgtgt tggaacctcc tggggacatg ttatatattg 3240
 aagtattaa actatttaat tgtgtgtcta tatttggag tggaataatt tcttcattaa 3300
 aaatgtttt taaaacaca aaaa 3324

<210> 155

<211> 1618

<212> DNA

<213> Homo sapiens

<220>

<223> nb1a22344

<400> 155

atacatcatt agataataat gtagcaataa attgtagctt tcactacata tgaataggca 60
 catgaatata cacttgtatt agtaaactct agtaaagatt ttactctgc ctatacaaat 120
 tatgaattac atatacttta atttctatca tatttgttt gtatccattt aattttcaca 180
 tagcttaaac acgaagtga gagagctgtt taggatctgg gaaataataa aaatgaattc 240
 ttttaaaatt tatttctggt gaattcgaaa tgcagaacat gtctttcaag agacaactcc 300
 cccttttct caaaaatgtc aagatcagac tagaaaaatt ttcattcaag gcaatgtgtt 360
 atttttattg tctgaaggaa caggggagac tttcatggaa gagagagcat ggtttagtga 420
 aagcccaggc tgagagccct tactcctgaa ctggaatccc accttctgc tgggctggcc 480
 ctgtgtgcaa gtcaaccagg ctcatgacct acatctgcaa catggagcta aggttatctg 540
 ctcttctctt gccattaga ctgtaaggag ggaaacatta gtattagctg gagagtctt 600
 tggtttctta gcgaattgg tactaaatga tgcactgtgg ctttctaaga aaatgctttc 660
 tatgcagtgt cagccccag gaccatgcgc aacactgcat gcagcagata gaatgaaca 720
 taaaattata tgcataactt tatttgaat atcaccctgg aaagtattgg gttttcattg 780
 ctgtaaaatc atgttaccag gagtcacttc acaaaatact tgataataga aggatcactt 840
 gcattcta at caccaaacag tacaattttt ttaaaggaag cacaaaaata aaattataac 900
 aaatatattg gccaaagcag actgatgtag atttgactt atattttaaa atcttaaat 960
 attataagaa taataagttt tactatttgg tttaattttt taataaaaaat aaaaaatgaa 1020
 aagtttgacc attcaaacat catttgaag ttaaggatta gctataaaag tcagacatag 1080
 acatttcaa cctgtttttg gaagctacta tgaattgctg aattgttttt catttatggc 1140
 ctgaaatttg aaagctaagt actgttatgt gaacagcgaa ttggaaaagg gaataaaata 1200
 ttgtgtactc agtgggtgatt atgcaccagg cacaccacat tcttacctg ttttcatcc 1260
 ctacaactgc acaaagtagg tattaatagt tccacctcag agatgaggaa cctagaattg 1320
 taaaaatta gaggccaggc acggtggctc acacctgtaa tcccagcact ttgggaggcc 1380

gaggtgggcg gatcacaagg tcaggagatc gagaccatcc tggctaacac ggtgaaaccc 1440
 cgtctctact aaaaatacaa aaaataagcc gggcgtagtg gcggacgcct gtagtcccag 1500
 ctactcggga ggctgaggca ggagaatggc gtgaacccgg gaggcggagc ttgcagttag 1560
 cggagatggc accaccgcac tccagcctgg gcgacagagc gagactctgt ctcaaaaa 1618

<210> 156

<211> 2274

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22939

<400> 156

ggacaaaaag tagctattgc aagcaccatt ctctggtttc ctggagattt cagaggctc 60
 tgctaggtct agcggaaagg caagcaggct gaccactgac ttcttacctt cttggatttt 120
 atcttttttc tttattggat ttcatagaat attttattgc tcttgttggt ttttcaatcc 180
 cactatttta agtcactgtt cctcagcatg gagtatggag gtgtggaggg tggaaacatg 240
 ccagggtgtg ccgtttgtac ttactttagt gagtaagcca tcaaaggtct gggaagccat 300
 caagaccttt gaacagaagt gtgactgatt cagagcattc cttgaaaaag atgagtgtaa 360
 ggagcaagga ggattgagta gggcacatct cctattctgc atcttttcac cctaacacat 420
 ccattgaaca gatatttacc gagtgcctgc ctacgctggg ccaagcaatg ttgtcaacat 480
 aggggacaga gtctctgccc tcataaactg ctattgctgg taaaagccac tttctgaatc 540
 gtatgctggt gaaaattctc tgaagaaaag gctgccactg ccaacttata tcagggcatt 600
 tgatggctct gactggcctt ttccctacca aaatgttgag ctttgggtgt ttgtgaatgg 660
 gggtagcaca tggcagagtc acacatgact agttgtatgg gagaatgata aaattccaga 720
 aacaagagtt gtagtcatcc taatagccaa gccactgaca aatgtcaact gagtagaaag 780
 taaccactga atatcgtttt aaaaagattc actgatttat ttcatctaata cagaccatgg 840
 agcctgttta ggtagcagac tgaacttcac cagccactac ttgttccctt tgagtttaga 900
 aattaaaaac aactaagccg gatattccat actgaagtct gggtttgaag ggatgtggcc 960
 aacttgtcta tccttcatga tgcaaaattt gcttttatag cataagcagc ctttgaatga 1020
 acactatctt taggttttgt gtatccgaac acagtgcctt ttttagtccg gagaccttgc 1080
 tctgttgaac aggagagcac tggagggtcaa gctagacctg gaactaacc ttttctccc 1140
 attcttcaat tctggaggcc attcacattt cactcttttt cttccttcca tacttctcct 1200
 ccactgtgtg ctggttttta ttttaactgat tattgcatta tgctctaata atggttcaga 1260
 tcatttttga agataatgaa tgttcccacc acaagaaac gataaatgat tgaaatgatg 1320
 gatattgtta ttaccagat ctgatcacta aatagtttag agctgggacc aagctgaaat 1380
 attgagatca aaaagtgggt aattagctga gactggtttg gccagctggc ttggccagag 1440
 aaactgaata cagcaaaggc atccaaaggt ctttgatttt atagctccat gtgggaaggg 1500
 aagtcaattc ctgataacca tgatatgtta atccactgg taaaaactcc agatgacaaa 1560

aaataatgca aagttgggaa gaactgaaaa atgtttccaa ttcatgtttg tagttttttc 1620
 tataactagg agtttcggaa gcaggactaa gactcctggg aagaagggtt ggcaaaaggg 1680
 aggtatattt tggggaccca gatatgcaca ctgagattta aagaagaacc ctttgagta 1740
 taggtatgtg taacacaaag tcaccaaaga aaaaaatata catttccaaa taaaagccca 1800

atcttagcct ggaccaatit ggagagagt agaaaattct ttgacttcca accattgtag 1860
aatctttcc tgttagtttt gatagtaggg tctttcggct atataattcc aagcctgac 1920
aactggcatt attaagtttt ctgtcatggc tagttcagca actggagtag atatagattt 1980
atatgtggat aattagctcc agtttgataa gtaacaaaag ataatgtcat gggctgatgg 2040
aataactgag ttttgaaaac ttttgctata ttgagtttgg ctatgctggt cataacgcat 2100
tagagctggc ggtgtccaca ggagcacagt cactcagggc tcatTTTTct tatgcaaaag 2160
acaaacgtgt caacgggaac agcaattgtg ataaggaagt aaaatatggg agggatctgt 2220
ttcctgttgg tgattgctcc tacgttacct ttagctacct gattaaaaga aaaa 2274

<210> 157

<211> 2653

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23084

<400> 157

ttgaacataa aggacactca ataatttttt tcaaaaatta agaaattgaa agaaagggaa 60
atggcatttt taattaagaa aaaaggcata tcttttaagt cactgtttgc taaagtgtgc 120
cccataatit tctagaatac ttgttcaaaa attcagattc ctggatgcct ccaggcctgc 180
tgaacaaaa tctccttagc ttagtaacca taaatattaa cactctctcc agggacttgt 240
tatgaacact aagtttgaag accactggtt aatatcagt gaaatttcac atctattatt 300
cttctctac atgcatttca ttctatttgg tacttcaaag tgtgtacggc aaaacaacat 360
cttaaggctt aagacagatt atcatggcac tcatgacta ccaaaaagtc acatittatt 420
ataaatataa ccaaaactat ttttgaatat gtattattgc cataaaatgc actaagctca 480
taaaactatt gaagacacta cctgtacaga acttagagtc aaggtaaaag aaaagacaca 540
aaaatataaa gtgtattgaa caagcaaaat actaaaagat acccgaagt tcatatggtt 600
gcacatattt gccattagcc aacctactca ttatcctgtc tccaaggac aacaaccttt 660
taaggtaatt aaaataattc catatgcaga catggcagg agacaaaaag agaattgggc 720
tgtacaatga gaagctgggt gtcacgccac tcacattcaa taagtagatg tttattggaa 780
caaggttctt attttattta caaaattctc tagcgttcta taccctctc tctctccag 840
ggctaaatit tattcacatc ttggaatagc ctacgaggt ttaccaagca cccacataaa 900
aggaattttt gtctggtcac agtggcttat gcctgtaatc ccaacaattt ggaaggccaa 960
ggcaggagga ttgcttgagg ccaggagttc aaagccagcc tgggcaacat agtgagagct 1020
tgctctaca aaaaaaaaaa ttgaacaatt agctgggcat ggtgacacct gtctataatc 1080
ccagctactc aggtggctga ggtaggagga tcatgtagg ccatgagttt taccctgcc 1140
tgggcaaaat agagagactc caactctacg aaaaaaaaaa taatttaacc aggtgcaaag 1200
gcacacccct gtagtcttag ctactctgga ggctgaggca ggaagatagc ttgaactcag 1260
gagttggagc tatgatcaca cactgtatg ccagcctggg tgacagaaca aaacaatgtc 1320
tctaaataat aataataata ataaaaggaa ttctaactct atgagatgga gggattttgg 1380
gggtgaagga attatagagc actgtggagt ggtagccctg ggaagccaga tggcatgagc 1440
accgaatgcc ttaggaaaaa ggaacaggtc agaagagtga agttggtcac agaataaaag 1500
tgagaaatgg tgcacacac agagcaccta atatgcgatt ttgtaattcc taaaaatggc 1560
ccaagtaaca ctgcaaaaat cactgccata taaaaggcca tatataaatt gccacataaa 1620

aactgatata aactttggtt aagtccacaa cctttagctt cccctaagtg gaacctatga 1680
tccctaagct gggttgatgc aagtcctccc aaatgtcagc ccacacaagt ctcttccta 1740
cccacttctt acttcttctt tcctccccta gaaagttgca ggccagcaat aaagggggaa 1800
aggggcagga actagtgaag ttgatagggg cgcctctcc tgttgagttg tctcaggatc 1860
tccttattct agaccttgat ggcacatcct ttgaggatgc tgatagcctg ctgagcaaga 1920
taagcagtaa cagctaagtg gtaagatact caagagtttc tggacattta gctgaggagg 1980
gaaagaaagc attgaaatac tggaaaggaa gatctgaggc atttctaggc aaggagaata 2040
ctgtttggcaa aattagaaga ctgggaaatg catgaggcac agtgatgcaa ttgagcagcc 2100
cagccagctg gaggctagag tttgagttta gaaggagaga agagtggaaa aatggtatgg 2160
gtccagactc caacagccct caaagagtga ttataatttt tacaaggaat actaattctt 2220
attaatccgt tacattgccc catctgcaga gatctagaca tccttattct tagttctgta 2280
ttaaaggaaa acaaaaacaa ttatttttaa atgatacact ataataccag aaactcttta 2340
gataacaact gtgatcacta ttgacaacaa acttttaata agtatacatt tcatgggatt 2400
tagtggttag gttagaaaaa aagtcaaaat attttgaagt aggcttttgg ttttgctgat 2460
acacttctaa aaactgagct ctgatttatt ataattcaac cattgctcat gataatacat 2520
aacaagtac acaatcttta taaagataac gtatgaattt aaagaactaa gaaaatagct 2580
gtttctaaag atctccaatt ttccaactga tttctgagca aatattctcc taagaaattc 2640
tatttcctaa aaa 2653

<210> 158

<211> 1909

<212> DNA

<213> Homo sapiens

<220>

<223> nb1a23103

<400> 158

cacttgttct ttagaaaaag ggagaaatct ctactcaagt tttagaagaa gataaaatat 60
gggtaagggtg acagttgtta ctgccatgca ggaagaaaaat attggggctt gatagataag 120
caaataaaca agataccttt gtgataaagg tctccacttt tagcactctt cttagccagt 180
atgacctca ataattcctt taccatctcc aaagcttcag gtacttcagc tctcaaaagg 240
aaagtgactg gataggttgc acctaaaaca cttttgggaa aattaagtgt gatttcctca 300
aatataaccg tatagcctcc taaaataaga ctatgctgtt aaacctcttc ttttagattc 360
tttacttacc caaccatta ttaattagt cctcatctat ccagacggc ttttgcgttt 420
gtttgattgt aagccttcaa agtgtcagg attataatac ccatttggtt taattgggtta 480
aagtgataaa catagtgcct gtgcatgtac acattgaagg tatggctgtt tgacagaaat 540
aatcttctta ccttctctt cccagcccta acttctgaag ggtgagagaa tgagtgttta 600
aaaaaatitt cttttcagcc caatgttatc ttttagcagt cttacatct tcatcacctt 660
tatgcatggt aatcagcaga acaggtctcc ctactgcagc agaactctgc atgaaccag 720
taatttctca aatctgatag gtacagaaaa gtgtgtggcc tttcacttcc tgtcccttcc 780
tccaacccca aaccatagag aagcatgctt tctggtgaca tttattcac atagacattc 840
tcacagctct ttattctgta agaaagatta tgtggagtat gaggagtgtt gttccgtgtc 900
atttataaac tgcctactcg tttgattttg caaatttga aataaattat gaacgtcag 960
gaaaatcctt ctatgagaga gttattactt ctgtccagtt ttgaaagtca ggtttgcagc 1020

tatctgtgct atattcatttt aggaagggtgc ctgatgtgat cttcacacgt atcacctagg 1080
 attattcagg aaaggataat tcagattgtg gagctacaat atggagtttc cagtggttca 1140
 gtatgagtgc agtgagcaag acaataggga ccagaatggg gaaggccact taaaaatcca 1200
 agttcatggc tggccacagt gggtcacaag gtcaggagtt tgagaccagc ctggccaaca 1260
 cgctgaaacc ccatctctaa taaaaatata taaattagct aggcgtgggtg gtgggcacct 1320
 gtaatgccag ctactcggga ggctgaggca ggagaatcgc ctgaaccag gaggcagaag 1380
 ttgcagttag ccgagatcgt gccactgcac tctagcctgg gcgacagagc aagactctgt 1440
 ctcaaaaaaa gaaaaaatc caagttcgtt actgactttt atigtactcc acgagataaa 1500
 aaacatagag attcatcagt ttagctctac ttgctcaata aaccacaact ttaactcttt 1560
 atatatattt ttctgttgac agaatacaaa ctggtgactt ccaaaattat gggtagctta 1620
 ctctgaggt ttagtcaaga gttgtacag ctctaaatcc ttgtagataa ggttttaata 1680
 aaaatgccaa cttttaatta aaaatctctc tcttgattca gttatcttgc ccaaacttgg 1740
 aaactcttct tactactgta tataataatt cctgttaacc agatgttgtt tgatagctca 1800
 gtaataacaa atggagggtg ctgtcctaa cctgatttac attctttcct ttgatgtgt 1860
 agcatatgtg gagcagtcag ctataaaag gtcttatcaa taagaaaaa 1909

<210> 159

<211> 1989

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23234

<400> 159

aatttgatgc tggggacatt acctgacttt gtatattgca tttgatctg catcatgttt 60
 gagaaatata tgcaaatgac tctaaggag aggactttga aggattctat cgaacaaata 120
 tgtacatatg tttagtccg tgctgggcag aggagtgtgg gaatgtacca gcgtgtatat 180
 aagacagtgt gcatcttacc taataatctt tatggccaga ttgagaataa atttttcgaa 240
 attttctttc ttccgcatth ccaactgacc cttattttaa agtcattaat gttgagctct 300
 ctcatgggat ctttatccat ttttctaaag ctgcggtttc tcaggttatc aagtttataa 360
 cccttgtagg caagtcacgg atggtggagg aagcatgatg gagtatctgc atgagacggg 420
 gggctgagtg tgggaaactt gtgggatctt ctcatcctcc ctttctcaga gcaccagag 480
 tttgacagcg ctttgtgagt gtttatcaag agcctccaa aagaggccgt ggggcgattt 540
 gcgaagtgca caaggcaaaa agtcaatagc ctgttttctt gtgctggctg ggcttcttgc 600
 cattaattag ttgtgtgatt tggggctagt cctttaaccc atctgcactt ccatctctgt 660
 gtgtgtaaaa tgaggtgatt gtaccaggcg atctctaaac acccttcttg ccctgatgtt 720
 ccagaaagcc tggttcggga gagagagaga cagacacaga aaggcgtgtg gcccaatctc 780
 tgctctcaag tatttcaacc ataggagcga ttaatatcca ctacacagat tcaaaatcgg 840
 ggctactcca gggctggggg gccctcctgt ccgtttcttt tctcctctaa taaactcaaa 900
 ttgcctacaa cttttctttt tattattatt attatacttt aagtcttagg gtacatgtgc 960
 acaatgtgca gatttcttac atatgtatac atgtgccatg ttggtgtgct gacatgcaca 1020
 catatgttta ttgcggcact attcacaata gcaaagactt ggaaccatcc caaatgtcta 1080
 tcaatgccta caacttttca acatgatttt attcttctca gcattgcctt ccacacaatg 1140

ctcttttcta tataacttct tcctgtgagg ttctgtaata tttgctctgt gcctttcttt 1200
 tctcacattc attatctttc aggtagaac acccaagagt gtttccactt gaactttcct 1260
 ctttctcagg acagcctctt tgccaaaccc atcttgacgc atgtactctc ttccttgagc 1320
 gtatgtgctt gcaaactctg tgtatggtag aatcatatgt tgccacattg aagacatata 1380
 agatgcctcc agtttctatg ttcaccattg tgatcattga tcacatatat gtgcccagtt 1440
 acatactgta ctgaaccaac catcctatgc cagacgttta caaacaaaac attcagaaaa 1500
 cagatggggc atagaggatg ataataaggc agagtggatg gcaggaatca gcagagtga 1560
 taatagggat gtagactaga ccaaaggaga aaaaaaatcc tgggagtttt ggttgcaaat 1620
 ttggaatgaa gagaatctat tcttttttct tgtttattgg gctttaggac tgtgiaaaca 1680
 aatttaggct ggctaggcca ggcatagtgg ctacacagctg tactcccagc aagcactttg 1740
 ggaggctaag gcaggcgga cacttgaggt cgggagtttg aaaccaccct ggccaacatg 1800
 gtgaaactcc atctctacta aaaataaaaa aattagctga gcaccgtggc acatccctgt 1860
 aatcccagct actcaggagg ctgaggaaag agactcactt gaaccggga ggcgagggtt 1920
 gcagtgagct gagatcattc cactgcactc cagcctgggt gacagagcaa gactctgtct 1980
 caggaaaaa 1989

<210> 160

<211> 1715

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23300

<400> 160

aaatatgtaa caatacgttc tgggaattaa atgtgatgtt ttaaaaaag caaaccaca 60
 ctgcattagc ccagtgccaa gcacataagt gtttaataaa gagtaatgat attattaaca 120
 cacttgaaat gtatcacccc ttcagttaat agaatggtaa acatgttagg atgcctgcct 180
 agaggattta gcagaaaatg ctttgtaaat gttctatata tgaaagtaca tgttgatgtc 240
 caggttagca agatgaacaa agatgcgcag atgagagcag cgattaacca aaagttgata 300
 gaaactggag aaagagaacg gtaagtaata gatttgttta ataaattaca tttcaccgcc 360
 tttaatagtt agcttgtaag aatctaaaca agaatgaaa catgtcactg gaaagaatta 420
 caattgagat tataaaagtt tctattccga acatctggaa aaaataattt aggtttgtta 480
 agtattgcag gacttggagg gaagtgggtg tgtagaaaga tgagcaagat atggctctta 540
 aagagtaatt tgatggagaa gaaaaagtag atacctgaat tacaactgga gacataatgt 600
 tacctgggtt ttaacaggga gacaatgttg tggaaccagc ttcatttacc aagctctcaa 660
 ccttgagca gcaagtgtg tttccactct ctaaaacatt cttccttctc ttccttttta 720
 gctaattcta gctcaactat caggctaat ttatatattg tctcttcaag gaatgtttt 780
 aagtcacaaa taccttggtc catcatagca tttaatcaac atgtgttct aacaatctac 840
 ttggctagtt tgtatcctcc agtataatct aagtcttta acacaaaaa caacattgta 900
 taccagcat ctaatgcttt gtttgggtca taattggcca cgtaaatatt tgcagaatca 960
 acaggttag aagtacaaag aaggggctga ggaatcaaga aaggctccca gaggcagggt 1020
 tataaagtga gtaagacaaa tatgtataag gaagaggcaa atatgtataa ggaagagggg 1080
 gaatctttca actcaacccg ggcattcagg tgatcatgta agatctcaca caataagaaa 1140
 aagagtgca tctgtgtctg actttatttt tggatgatgg gagtcattta aagttttaag 1200

aaaggaaatg actagatcac atttacactt taggaatcctt actctgttgg tgtggagctt 1260
 ggacttgaag gggacaagat agatggcaga aaaatgaggt agaagattat atagggttga 1320
 aaatggaaaa ctccaaaaat tggaaggaga ccttagaatt ttaataaaat gtagaaacag 1380
 caaccctcaa aatgaggaag gaggcacga taactgcctt gggtagcttt agaggatagt 1440
 actgctggta aggagtacgg attgtatgtt gttttttttt ttgttgtttg tttttgattc 1500
 atgcagcttc aagtactga gtttctatca tatgccatgc cctgttaagg ttttgaggt 1560
 aacagtagta gacaaaaatg gagactttgt ttccacagag ctgtcattct aatgggagga 1620
 gacagataaa actgtgtaat aatgtcagat ggtgatgagc actagaggaa caataaagca 1680
 gaaaataaag aggtgtaata ttttagatag aaaaa 1715

<210> 161

<211> 2585

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23369

<400> 161

atacaaatat tccagcccca aatgagaaat caaacatatt aaaattgttc aagaaaattt 60
 ctttgaacac ttttgaaggt ttttggaaac ttagaaaaga gggaaaaaaa tccagtgtta 120
 ctagtaattt ccatggtaat acagataaaa tacattcttt taattctggg aaattagaaa 180
 aagtggggtg atctttccag gaaaaacatg tgtaacatct gcttatcact ccagctccct 240
 cctcctcctc ctctccacgt tcccttgagt aaatgtctgg gaaagcatga agcttgatgc 300
 aagaacctg ttgtactggc gttttcctcc cctgtgaaaa cgtaactact gttgggagtg 360
 aattgaggat gtagaaaggt ggtggaacca aattgtggtc aatggaaata ggagaatatg 420
 gtctcactc ttgagaaaaa aacctaatg tagcccaggt agttgcctgt aacttcagtt 480
 tttctgcctg gggttgatat agtttagggt tggggttaga ttaagatcta aattacatca 540
 ggacaaagag acagactatt aactccacag ttaattaagg acgtatgttc catgtttatt 600
 tgttaaagca gtgtgaatag ccttcaagca tgtgaataat ctccatctt ccccgccaca 660
 catacacaca cacacttttt gtttctttca gtagacacc ttttaaaatg caaaactaac 720
 tgaggcattt cagtaacttt gctttcaaat caataaagtc aaatgtatgg aaacattttg 780
 tgccctactc tccatacccc gtgtactcaa attctctact gtatgaatta tgctttaagt 840
 agaattcagt gccaaaggaga acttggtgaa ataaattatt ttaatttttt ttttatcctt 900
 tacaaagcca tggattttat ttggttgatg tgtgctctgt acacaagcca tttcaatagg 960
 atggagctgt taattatttt ccaaagagta atagacatgc aaaagtttca ataaaaactg 1020
 ggccattaac aaataaatia ataaactaat aagcattccc ttctagggtt ttgccaaact 1080
 gcctatccaa taacaaattt gagaatcgtt gaaaaagcta gttatatctc agagaaatga 1140
 ttttcattat tgaaactgtt ctccctagca ggccattttc cttttttcct gggagttag 1200
 caagtttagg agagaatagt catgaaaaga aagggaagaa aggggagaag ggaagagggt 1260
 aaaaagtaag tgctcagacc tatgaacgta atcccttgc tagaaatatt taagagcagc 1320
 tcagcttggg tgaaactgag tttgtcatc ttccatattt gcaggaaggt attttctgac 1380
 ttgcaatgca gctagatgta aaattttatt ttatcatact agaaagcctt gactagaaaa 1440
 atgaataaat attgagggtt tcctgtccat atctggcttg catgtgccag aaagcagaga 1500
 atagaaaatg taatctccaa catccaagca tcgaaacca aggggtaggc aattctatgt 1560

aggttttga catgaagttt ggtgcatctt ggtttatgct ggctcaactg ctattaaacc 1620
 tctctggctt atagtctctt cattctatta gacaagcacg tatcgacac ttgcttcgca 1680
 caaggctctt tagttaacaa tttagcagct actgitttggt ttaaacacac ttttcaccaa 1740
 ataggttctg aggcaaacga gagcaatgac tatttaaaga aaggctttcc cagcatcact 1800
 tacacatccc aaaactaaaa agatcaactc ttccaactga gaaaagactc ctggctttga 1860
 atggaaactt acagcagaga gtcacaggcc acggcaacaa caacgacaac aacaaacatt 1920
 tggaatatta ttctcaactc acgttttaaat aatacatctt attatttttc tagtagagaa 1980
 actacaaatc agcctcttca acatttatat acagttaaat aagcctcttg caagttaactt 2040
 gttctctcac ctgaggtatt tttttcctcc ccaccttgcc cctgttctc ccttcctctt 2100
 ctccccttgc aagaggaaat atttaacata tttgggtcca acttcaataa tgtaataatt 2160
 aatacattaa aagcatttaa cttcctttct agaaaaatgc acaggctaag gcatagacaa 2220
 aacaaagaga aatgctgaga aatttgccac tggagacaag caatctgaat aaatatattgc 2280
 caaaagtctt ttttatgtca tatagtgtca ggatttgaag gagctatttt tttttaatgt 2340
 tgcaactagc aactcatctt cggaagacac agccaggaga atgaagtaga agtgaaaggt 2400
 ttataaatcc atttgaagc atttatccca tatattttaa attcaagaaa aattgtgttt 2460
 atcttttagaa ttttgtattc aatactttat gtactatgtg actcatgctt ctggataaat 2520
 aaagcaccaa atatgtatct gtaaccacaa tcacacatat tatattaaat atatatctat 2580
 aaaaa 2585

<210> 162

<211> 2027

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23436

<400> 162

gacgctacgg cggatatggc tgcagagcgg ccggctggga tcttagatag gaggggtgga 60
 tttgcaaggc ctagaatagc tggggagtgg tttcccgcg gaatcggcct ccctgccgct 120
 cctgctttgt actgtgacgc tcagcctgtg atgactgggt tggaatccgc tgagccacct 180
 tggcctaagg agactttacc actctgagat tgtaaactct taaaatagag atgtaggatt 240
 agccbatacg gtagttgtgg taaatactgt gagacaataa ggggcctggg acacagcatt 300
 caaatgggaa taatgaaggt caagactgtg attcctgtat ctttgacgct ctcggtataa 360
 gcaccgtcgt gggcacaggg cagtggcctt tatgcaggag tttaagaggg aatgaaggaa 420
 tgaatgggca aactctggag ttccaagta ttctctccag gagctgtttc cattcttttc 480
 gtttccagca ggttggtaaa ttcattaatt tattcattga tctaattaaa atataactaag 540
 tgcccctcac ctgtgctagg ccaatgtgat acaatgagca gaacagtcac gggccctccc 600
 tgggaagccc tcactagccc aaggactcct ttagacatt taagtgtcca caggctctgg 660
 agttccaacc ttgagtcaa tttagcagct gtggaccttg ggcaagtcac tacatctaag 720
 cctgtttttc cttctgcaaa atgggttaagg attcaataag ataaaactgt aggcaatgaa 780
 aaccgtacct ggtaacagta ggtgctgaag aagtgttagc tattaatttt tgcttaattt 840
 ttctctctct gctctatgtg atgaaaagat tcaaggagca attgttgga tgtaaaaaga 900
 gcacgggact tggagtcaaa tacttaagtc taccatcaag tagttgttaa gaattaaaca 960
 acaatttttg tgtaccaggt taaatgtggg ctgcttagga atgatgactg tgtcttaattg 1020

atctctgtat tcttagtgac atgtagaatc attgtgcctg acacatagta tgtactcagg 1080
 aaagaaatgg aaaatgtggt ttagcattg aaggccggga gagagggtct aacagactac 1140
 aagccctgcc aggagcagag taagggaac agaggagaaa agtgttttta gtctgtgcct 1200
 gaatgtatit acatctgttt gtagcccaaa agccaaaagc gtacatacgc ttggcttttc 1260
 tgtagctatg tttatggctt tacagcagat tttatggagc tgcaattact ttgatcatga 1320
 gggactgatg ctagtggatt tacttcacca aatggaactc actttgtggc ttctgaagaa 1380
 gggacctttg tggactgtca tggagtagtt aagagtgcag gctctgattt agtgatcaga 1440
 gtctgcattg tcaggaatgg gacaaagtga agttatgtgg cacttgatag gatgccctga 1500
 gaagattgca acatcacccc tgtgatattc ctgctgaaga tccataacct ggatgtaatc 1560
 atgaggatat atcagacaaa cccacgtaaa gagacatgct gtatacaaaa ctgtaatctt 1620
 agaaaagtgc aaggtcatga aaatcaaaga tagaccctgg aactgttcca aactggaggg 1680
 gaccaaagag gcatgacaac taaacacaac acatgattct gaactggatc tttttgcttg 1740
 aaaggaagtt acagggacag ttggaaaagt ttaaatgggg cctacaatgc cgtggtaatg 1800
 atgtgtccgt gtaattttcc tgattttcat ggttgcctgt taagttacat cagaggatgt 1860
 tcttgtttgc tggaaagtaa atcaatgtat ttggcagggg ataaggcatc aaatggtcac 1920
 ctttaattca aattattaca gggaaaatgt ttctctctgt acttaataac tttttgcaa 1980
 tttcttaaaa tgaaagctct ggagtaaaaa cttaaggat ccaaaaa 2027

<210> 163

<211> 2400

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23511

<400> 163

tttcttggt aactccatcc agatgaatta ttcagtattt tttctcctat cttaatgaag 60
 ttaatttgaa tgctaatttc ctataaccaa gaaaacagtt gaattaaata acccttatct 120
 tttaaactta aagcttatac tactaataat catttaacat tcacttcctt tttctgact 180
 taattggtag gtaaataaaa tacttcaaat ttgattggca aattggaaaa tcacttagaa 240
 caatctgcta gtatttttta ttccctttgt tttttcctt acacatttgt actgcaaaat 300
 aaatcaagga caaagactca cactgaattg atcaacttgt gtttggctct catgggaatt 360
 acatcttttt tcccctcaac atttattaaa ggaacataca gaatttcaga ctatagcaaa 420
 ctaatacctt tagcttgact aagagttgat tttcgtaag gaacagaact tgtaatttat 480
 ttcgacatac tttaatgtat gactcatccc tgtaaagtt gtgagactca aaactacgcc 540
 caaatcactt aattttatgt ccttcctgt ttactgtgtc tgacctcaa gatttcgtga 600
 ctgatgctga aatggaagcc aaccactgca gaaatttggg gaaaatgag atctgaagaa 660
 tacaagggga agtaggaatt catttctagc atttccaaac ctgcttaatc gtgtctgtc 720
 caccacagtc agaggaaaag actgagttca tggaaattac cagctaagcc ttacatctgt 780
 ctttaatggt ttaggaagt atactgaaaa ggtaagtgtg atgtctgttt tgaagaaaga 840
 ctcttactgg gtaccttaaa acccgttgtt tcctattagt aaagatgggc agcttcttta 900
 ttcctagctt caaaaagcct tgcccctgtt tgggtgtgtt ctctgtattg tggagaaggt 960
 agtttctgag caaggtgggt cttttcctct gcttctcagc agctaagaca gaaattgcac 1020
 cgaagtgtac aaagggccaa ttttgtgtgt cctgttgtgc tcaaatcctt ttttttaaaa 1080

aagttatttc aatcaagtct tagtttttatt cctcactata taggaaaaaa atctttaatg 1140
 cctcaaaagt tccattcagc attacatttg cattactctt atttgcagca aatatgagta 1200
 aaattatagg tttttaaagg tctctaataa catccactta tattggtttt gtagataatc 1260
 cataaattac cagaaataaa ttattccaca ttattacac acccatgtaa tagatgtcgt 1320
 gccaggccct ggaatatact aatggcatca cctcatgttg taaaaagaca cattccgcca 1380
 tccctggagta tacaaggta gactagcata tagttcatgt gctcaaggag ttcattttta 1440
 ttgacatgat acagatagaa ttgtagtta gggaatcaaa atctaataaa atgaggctaa 1500
 ttccattttc ccattaacac taataactag tgtgtaaatc tgaatatgac acattctata 1560
 tgaaagaagc tctgtgtgca tctacactaa atactcgtgt gtgccaggta ctgttttaaa 1620
 ctacgtatat ttttttaatt ctcataactg ttctctgagg tatgtactaa tactaaagct 1680
 tattgttaaa ggaaggcaga aaaattaagt aacttggcct aagtttgcct aactgtgatc 1740
 tgggatcaat atttgaacc atacaggctg attgcagagc ctgcactctt aatttgagtg 1800
 tgatatttat gtgcagtacc tggctataag taccacaaaa acgtttcaaa ttctttataa 1860
 aatttgctta gttaaaaaag taccaattgc ataatatggt tataagtctg gtagaagtta 1920
 ggctttttac aagacatgct gcttactgca ccaaggaggc aagaaggctt ttagagagc 1980
 ccagaatttc ctttctcaa ctctgcttc caagacagtc attttgcagc ataaccgttt 2040
 ccccaaaaaa cacagacaca aaatttaaag aactggaaca gaggaagcag agcttatcat 2100
 agtatatatg tttagtacc tgtcacttag gtccaccct ctttcttgt ggattgtgga 2160
 cattttgttt aactgctaaa tcatgagaat atatgactgc tgagactttt ccaaggattt 2220
 tttaaaaaac acattaggct ttgtgcagaa gtaaagaaaa agtgctgtga gaacccagg 2280
 taggtaattt actttctatt gtactcatag ttgtttgaa acctcttcac ctctatccct 2340
 tattgtttta tactctgtaa atctgatttt acctttaata aacttttctg aagtgaaaaa 2400

<210> 164

<211> 2954

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23664

<400> 164

cattaattta atagacttta tattaagcag aataaattgt aatattgctt atgactaaact 60
 tcaaactctaa tattttaatt tcaactaatc atttaactac tgacatcaag aaattactaa 120
 agctgttgag atttctatct catgtcttga tgttctctca gaatgtttat tggctctcatg 180
 acttttgggtg actttcattt ctctgtctgt cccatttct tcaaaaagc tcatgtaaat 240
 acctaatatt taacttttaa tticagtaat ggcaatcact gtttattttc tctgtcagca 300
 caatacaaga agctgattta cagctgttta aggaaataca aatgagtga agaaaaggaa 360
 agctttttct gggaattaaa gaggtaaatca ggttttgttt tattttgctt tgttttaaga 420
 gttctataca atataaatag aaaaatgggtg agtcccata gtcacttggt tggctctaaa 480
 tcttatccat tctattatta ctctgagaa agctttgtag ttgtcatgtt actcatgttt 540
 taatgactga gaagagtttt ttcatggta cttttaaaaa atttaataaa atacaaattg 600
 atttttgtgt ttggtaaact atgttttcta ggggtgtgtt tttaaatgta gtttaatttt 660
 taactctgtt ttaatttgta ttctcaacca ctagtttagca gaaaataaaa tatctgtaag 720

tcagataata aaaaacttaa atgaactgta aaaacctgaa gttatgaaga aagagtgacc 780
taatataggt actagtttgt ttgttttttc attcattcat tctggccac tgtgttcagt 840
cttgacttg aataaaaatg tcagaaacac cacacttttt tctttagttt ttcattgcttt 900
ttgtcttttt cccctcccc agcaaactg ttattgtgtg tcagcatttt ctgcaaactt 960
cattttttct actagcattt aaatatttcc tgtgtcctag ggattgctct gtggattgca 1020
ggataaaaga gggaaggac cctagtgcc ctccaggagg ctgtgtatct ttagtgagg 1080
gagtccaatc actgaacaga tacttacatt tagaatgatg agtgctctgg tgaagggtta 1140
cagagtacta caggacacca gcgtgaagat taaagggaaa gtgtttcaga ctagaatact 1200
ccctgtcttt ttctgtataa aatagaaaac attttgctaa cattagtagg attatagtta 1260
cttttcgtat cgttctcttc gaacctgcct aacattgcag agcaagtagg gtgagtggga 1320
aagatttttc aggttctcat attgactatt ttgcttttca tttttattcc ttctctctaa 1380
caacaaaata aaggaattca gacaaacatg tcatgtgata attatatagc cttgggtaat 1440
acattattat ttttagttt taaagtactt taaaaattgg cagagtattt ttagtatact 1500
aagatttgaa cagttaacc agtaggtcg ggatttgatt acgctgataa agatatgcaa 1560
gaaataaagt aataaaagac aaaaatgtagg ttgggaaaat tcaaattgta gttttatcca 1620
ttaatcatat actttacttt gtgcttgta ttgtgataat tacataaaga taaataaaat 1680
aacacaccta gcccttaaag tagtagttct ttacttttta aaggtcaggg gtcccttgag 1740
aatctgaaaa attgagaatc tcttctaaag aaagtgcaca tacacataaa attttaggga 1800
atattctagt tgtcttttca tcttgaaac cccaattaaa aattcatgtc ttaaagaact 1860
gagatgatga tcatgctata tgagctagtt aattattaat gctgatgtgg atattcggtt 1920
aaataaagcg aaattttaga aatcagaagt taaatttata gaaggaaaa gtatattttc 1980
tgttgtagg aaagcatttt ccagtaattt gatttttctg gcaccctaac taagggaagt 2040
tggtttttt aaattttact ttgttgca agattaaatt taagggttag ttccacttg 2100
tttgcaatag ttgaaaaag aatagttaat gcagattttt tttttaaatt ttttctttt 2160
taagctttgt gtctgttaca atgtgagttt gccaaatttt ctcatctgc tacagattag 2220
gtatgccatt gttgtgcca tgtggcggcg caccctgtgc ttcttaaag cactgactgg 2280
aggtttatcg catcacttgt tcacatgcac ggagcctggt aacagcctca tctgtatctt 2340
gttagcttca ttttcttatt tttaaaattt cattatttat aaactcaaca tagcatttaa 2400
aaataaaggc tagttttaat taattaatgt tactacaaaa agtcattgct aaaattttca 2460
tagtgaaaca gattttaact ttgttataa tgtgctatgc ttttaattaa ttgtatttac 2520
tctacaagca gggatgtttt acctgccatt ttaactgtat ttgccaatt ctaaatataa 2580
tttgaaaat tgaaattgaa gcttatgttt atgtggcaaa agtaagcttc aggactgggc 2640
tgtgtatttt tattggcatg taacagttaa tatgagctct acaagaattt gtttttaagg 2700
agctaaagct atcaacagct gcagatttaa aaaattatat attaaaactg ttaggttagc 2760
tcagttgtac aacttagtga atcttgatc ctgagtttct gaaggctggt ggataggtat 2820
ctctgaaatc attgtgtttt agtcttttta ctgatagttt tgtataggga attcatcttc 2880
tcttttaaaa taactttttt cctttaattt atttctatta cttattgtac ataaatttta 2940
aaataaaaaa aaaa 2954

<210> 165

<211> 1996

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23860

<400> 165

tatcaaaaag attttatctg tcccaaactt tctaactgta gccccagcac caacctcttc 60
tttacatttg caccattacc tctctttgaa tactgtcctt ttttaacttg attctgttta 120
tgatgatgcc aaccaataaa ttcaattagg aatataatga tgagcaaagc agacattgac 180
tctgtcctca gtctggggga gaaaatgaga cattaattga ataatacacac aaataaatat 240
aaatctgtta ctgtgtcaag ctctgtgaaa aaaaaagggg ggactgtgat gctctgagta 300
cctataatag ggcatctgac tttgtcgggg tggtcaggga ggtcatggaa ggctcttata 360
tgaatgacca atagaccttg actaggcaaa gaaaagggtca ttatcaatgg ctgcacaatg 420
attacaaatc tgtctgagtg tatgactgag cagagcacag atgagaacaa catgaactca 480
gtagtgcttt ccatttagaa atttataata aggaggctga ctcatgggtg actcactgtc 540
tcctcctaag aggctgcctg atggggtcct ccacttgctt atcagagctc tgtggctctc 600
acatagacat gattttctaa atcccatggc tgaccagttc tgcgtttcct tcggttttat 660
gtttatgtgt ttgtttgcct atttatctac ctgtgtgcca gaattatgag atcgttcatt 720
gccactgctg catctttcct tctcctctac cggttcctcc cttggcccct tttattttct 780
gtattttctc cttttcccct cccttctcta cagaaacttt ctctcctcc tttctcttag 840
tcttaatttg ccattcatit tctttttttt ctcttttat tttgtctttt tttctctgc 900
tgttcaccat gaagatacca ggcttatgtt tgcatagtgc aatataattt acaaaggcat 960
ctcagggaca ttattccatt tgatcctaag agcagcttg taagggtggtt gggtaagagt 1020
catttatcct gtctacagat atgacagagg accagtgaact tcccaaggt catgtgtctg 1080
ggaagggaag gattcttgac tgcaacctag atggctgtct cctgcactac tagaccatcc 1140
tgccttaaca gaaatgtcac atacattcca atcacgtctt ttagtctgac tgacaaaagt 1200
ccttttccgt cttgtcttta tctttcatga aaataagtct agacaaaagt cgtggtcaga 1260
ggggttttct ggtggctcat ccatcacatg agtagaaaca gccttagtct tatctgatga 1320
atatttgagg gacaataaat ttgaccttg attgaactgc ttataaataa tgattttcat 1380
tctgttggtta ccttgacctg ctgtgacctg gaagggtgga tggctaacaa gaacaaaaaa 1440
caaagaggat tgcctcaggt atcatttgct agccttcatt atattactca tcttgagaca 1500
tctatcttta tatatccaaa tgaaatctgg ttttttttgc tgcataatatt tcaatccctc 1560
agagactcct aaattccatc aggatitctg tttacttct tcttctgacc aattataaga 1620
gagtttaaag aaagagcacg tctgtatcct atgccacaga ccagatgccc ctttattgcc 1680
agggaacag ccagcgatgt ttatccttta tttatctct ctgctgactt tcagtgtggt 1740
taaagtgtta ttccaccgaa gtatgctttt aagatgtcag tcagcaacct ttattgacca 1800
atggatcaca tttggtaaag gctcctgctt attacataga gaattagact gctcaaagag 1860
gattttgcag gggacaggca ccatttattc attcagtcatt tgatttgatt gattaacttc 1920
ttatgcattt gttcaactaa gcatttactg aatgtctagt atgtgccaag cactctggtg 1980
agatatttga gaaaaa 1996

<210> 166

<211> 1481

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23877

<400> 166

gttcaagagg aaatcttgtg ttacttcttt atgaaggact ccagcctggt ggagatgaat 60
gagtcctgaa gatggaatcg aagctgtttg ggcacaaaca aggtttcact cttgttgccc 120
aggctggagt gcaatgggtg gatctagget cactgcaacc tccacctccc gggttcaagt 180
gattctcctg tctcaggctc ccaagtaggt gggattacag tactttaatc agcatttaat 240
gaccagtcg aaaattcatt gtttgaccc aagcactggt gggaaaggca ggaggggagg 300
cctgccttcc ttcctccctc ccgagcccta cagcaggcca tggagtgggt agcgagttcg 360
tacagtgcc accacattcc cagaaacttc cagcagaggt taatcctgct cctctcaggt 420
gggcttgccc cattctctag actttggaag gtaatgttct atagaggcct gttctgaagc 480
tttaccaggt caaaccggag aagaacccaa caagtaactc atcccagcct aactattctt 540
caagggcaat caacctacag catccaagca cagagaaatc aaatccatgg agaattctca 600
aattaggctc agaattccatt tgggtcaatg aatttactgt tattaagatc ttagttgtgt 660
tcaaccatga ttgacatac cttagagtga gaagatattc ttcttggcct cagactagtt 720
gaaggtagag agagagacag gcccttgggt gtggggagac ctctcctggg ataatacaca 780
caaaaaacca agagctgctc actgtgggtc aggagacagc agggcctgaa gccagaggct 840
ctgtgtcctt gaatacaatg ttttactcct ctgacccctg ttactgtgat ttggagaggc 900
agacaatata ggatgggctt tgcaggcagg gaggtccagt tataatccca gctcttacta 960
agttgggtaa gactactct gagacttagt ttcttctgtc atctctcaat agaattcataa 1020
aggtaacttc ctcttagtgt tgttttaaaa tttagtaaaa taatgcaggc ttagcacagg 1080
gtctgatgta aattttcaat gaattatcgt tgtcaatatt gttctggaaa acaagagggc 1140
atattagaag atcaaaagta ctgccaagca tgaagtgcc aattctagat ccagtctcag 1200
ccctctgaga atggatatca ttgttttcaa gccattcaga aaccaatgtg aattgaacac 1260
ctagtatgag ctctctgagg gaagagccaa gtcatgcatt ttttatctta aggggtcttc 1320
aatacctcta gcccaaaaca gtatctccat caggattctt ctctgatagt gttcatttct 1380
ttttctcaa tggatgcctt aaaaaaaaaa tcctacaagg aaacctgtac tcctcaataa 1440
caccactcag gtgaccatta aatcatttac attgttaaaa a 1481

<210> 167

<211> 2056

<212> DNA

<213> Homo sapiens

<220>

<223> nbla23998

<400> 167

cttgtgtgtg ttggcttatt tcaacttaaca taatgttctc caggttcac cagttattg 60
caaatgacag gattgcattc ttttttatg gctgaataat ttgtgtatat atagcacatt 120
ttctttattc atctattgat agatgcttaa gttgtttica tagcttggct atttgaata 180
atgctgcaaa taaacatgca agtgcagata cctgtttgag atatgatctc attttcttg 240
gatataacc cagtaatgag attgctgaat ctacaaaact ttttactgag ataataccta 300
gactcattaa aagtacaaa ataaattatg tgcctaaagg aagttatctg tatcctgctg 360
ttcatggtag ataatatccg tatggccatt aaggtctctt ttataatttg agcaagcttc 420
agacttcaaa gacttcacca agctacgact ttttgcttta atctccatag ttcagctata 480

ttcactctgg ctacaaaagt ttcattgtcc tatttacttt gacttttggt ggatatgggc 540
 tttctaaata ttttaaagaa aaatattggg actattcttt ggcaactgtaa ctctgaaaca 600
 gctgctccct tagcacagaa ccatgcactt gtcagacaca tggatgaagac ttgcagagtg 660
 aattgtaaag ccctgtattc tcgatcgggt aagcacttgg gcagcccctc ccattttgca 720
 gacagagaac tagaaaatct aggaatctg agacgtgcat gtgagaacca ggatcactcc 780
 acaactgtgc tgttgacgca gctgtgatag aaccaggctc agctgggtgc ctcatgagc 840
 cacatctgtt ttctctgcct caccacctag cattgcattt cttcagcctg tttttctggt 900
 cctcacaag gggatgtaat tgtcacatag gatactgtgg ttcacaaagt ccatggagtg 960
 gccatctgag ttaattaaag ctctgtggta gttgctgaaa gcatttctgc ctgaagtgtat 1020
 tctgtcctgt tgctttctcc tgcagggtgt ggttggcggg gttatgatag tgactcctaa 1080
 caacatcatg tttgaccctc ataaatctga tcctctggtt attgaaaatg ggtgtgagga 1140
 gtatggtctc atctgcccc tggaagaggt tgtttccatt gcgctctaca atgacatttc 1200
 tcacatgaag atcaaagatg ccttgccatc gtaagacatt tatttgttta ccaggaaaaa 1260
 aggggtgtg agagagctaa atgtagctta aaaatgaggg catttgcatg attgagggat 1320
 tgtgtagagg tgattttgaa gatggaagac ttgtgcactg aagaaaatga gaaaaatgag 1380
 aagaaatgaa aagaataaaa tcaatgatgg gaaaagtga acatataaag attaaaggag 1440
 aaaaacaaag aagccgtcat gtaaaaatag tatttgttgg gcttattttt ctaaaaagca 1500
 gtgcacgttc ttaatgaaat tatgaaggaa gaaaggcagt tctctgaaag aagtttatcc 1560
 aattatcaat aagagaataa tgttttcttc tgggtttaat taaggagagt tatgtttgtc 1620
 ttcatttaac ttctaggaaa agcagtcctc ctgattcatg tcctccctca gtctgcatg 1680
 gagagagggt tgggtctaca gtgtagtgtt agccaccttc tcatgctgtg aagagggagt 1740
 aataccagtt tgctttttcc ctgaaataca gatgaatata acttcagtcg tgattacttt 1800
 tgccttataa tgctggattt attgtaaaa agagaggga gctcccagg aaaaaagaga 1860
 aagcattaag aaagctcagg aaattgatta actgatacag ataactctgat ttttactgtc 1920
 ctttcgtct actgtgtctg tttctctata aaagccagca gtaaaaaact ttaaaaacct 1980
 tcagtgtgg gaagaggcaa agcagtaggt cctaacagta aagagggaaa ctagcccttg 2040
 gggttatat gaaaaa 2056

<210> 168

<211> 2564

<212> DNA

<213> Homo sapiens

<220>

<223> nbla24043-1

<400> 168

atttcatgac tgggtcggtc ctaaactctg aaatcagcct tgcacaagta cttgagaata 60
 aatgagcatt ttttaaagt tgtgagcatg tgctttccca gatgctttat gaatgtcttt 120
 tcacttatat caaaacctta cagcttgtt gcaacccctt cttcctgcgc cttatttttt 180
 cctttcttct ccaattgaga aaactaggag aagcatagta tgcaggcaag tctcctctg 240
 ttagaagact aaacatacgt acccaccatg aatgtatgat acatgaaatt tggccttcaa 300
 ttttaaatgc agttttatit tttttttct cctatgactg gagctttgtg ttctctttac 360
 agttgagtca tggaatgtag gtgtctgctt cacatctttt agtaggtata gcttgtcaaa 420
 gatggtgatc tggaacatga aaataatita ctaatgaaaa tatgtttaaa tttatactgt 480

gatttgacac ttgcatcatg tttagatagc ttaagaacaa tggaagtcac agtacttagt 540
ggatctataa ataagaaagt ccatagtttt gataaatatt ctctttaatt gagatgtaca 600
gagagtttct tgctgggtca ataggatagt atcattttgg tgaaaacat gtctctgaaa 660
ttgatgtttt agtttcagtg ttccctatcc ctcatctcc atctcctttt gaagctcttt 720
tgaatgttga attgttcata agctaaaatc caagaaattt cagctgacaa cttcgaaaat 780
tataatatgg tatattgccc tcctgggtg tggtgcaca cattttatca gggaaagttt 840
tttgatctag gatttattgc taactaactg aaaagagaag aaaaaatc tttattttat 900
gattataaaa tagctttttc ttcatataa cagatttttt aagtcattat tttgtgcaa 960
tcagttttct gaagtttccc ttacacaaaa ggatagcttt attttaaaat cttaaagttt 1020
ttttaatagt taaaaatgtt tcagaagaat tataaaactt taaaactgca agggatgttg 1080
gagtttagta ctactccctc aagattttaa aagctaaata ttttaagact gaacatttat 1140
gttaattatt accagtgtgt ttgtcatatt ttccatggat attgtttcat tacctttttc 1200
cattgaaaag ttacattaaa cttttcatac acttgaattg atgagctacc taatataaaa 1260
atgagaaaaac caatatgcat tttaaagttt taactttaga gtttataaag ttcatatata 1320
ccctagttaa agcacttaag aaaatatggc atgtttgact tttagttcct agagagtttt 1380
tgtttttgtt tttgtttttt tttgagacgg agtcttgcta tgtctcccag gctggagggc 1440
agtggcatga tctcggtca ctacaactc cacctcccgg gttcaagca ttctcctgcc 1500
tcagcctcca gagtagctga gattacaggc gccaccacc acaccggca gatttttga 1560
tttttgtag agacgcggtt tcatcatgtt tggccaggct ggtctcgaac tcctgacctc 1620
aggtgatccg cctgccttgg cctcccaaag tgttgggatt acaggcatga gccactgcgc 1680
ctggccagct agagagtttt taaagcagag ctgagcacac actggatgcg tttgaatgtg 1740
tttgtgtagt ttgttgtgaa attgtttacat ttagcaggca gatccagaag cactagtga 1800
ctgtcatctt gttggggtt gcttaaat tttgactgt ttagattcca tttcttaatt 1860
gattggccag tatgaaaaga tgccagtga agtaaccata gtatcaaaaa agttaaaaat 1920
tattcaaagc tatagtttat acatcaggta ctgccattta ctgtaaacca cctgcaagaa 1980
agtcaggaac aactaaattc acaagaactg tcctgctaag aagtgtatta aagatttcca 2040
ttttgtttta ctaattggga acatcttaat gtttaatat taaactattg gtatcatttt 2100
tctaattgat aatttgtatt actgggatca agtatgtaca gtggtgatgc tagtagaagt 2160
ttaagccttg gaaataccac tttcatattt tcagatgtca tggatttaat gagtaattta 2220
tgtttttaaa attcagaata gttaatctct gatctaaaac catcaatcta tgttttttac 2280
ggtaatcatg taaatatttc agtaataata actgtttgaa aaggctgctg caggtaaact 2340
ctatactagg atcttgcca aataatttac aattcacaga atattttatt taagggtgtg 2400
ctttttttt tgccttaaa acttgatttt tcttaacttt attcatgatg ccaaagtaaa 2460
tgaggaaaaa aactcaaac cagttgagta tcattgcaga caaaactacc agtagtccat 2520
attgtttaat attaagttga ataaaataaa tttattttca aaaa 2564

<210> 169

<211> 1945

<212> DNA

<213> Homo sapiens

<220>

<223> nbla24402

<400> 169

agaaacatgg atacgggtcaa cctattagggc ctgagccttg gaccacaagg cctaacacct 60
 acaggtctaa ggagatccct ggaacaaaga cactacacac actctttcag gtacctttgt 120
 tatgggcact tgaatgtgct tgcttcacag aggctgcacc accagtcag aggatctcag 180
 accagagctc caggaagttc tgctgttggt ctgataccaa gactaccttc agattctgga 240
 aaggattttc acgggggttg ctatgaagga gacaggaaag gaccttagca tgacaagtaa 300
 tatccaacaa actgccttct tgcaaaggga ctcatgtaca tctgaatgct ttcaaaaata 360
 aatgccccat cagacatagt gtctcaagcc tgtaatccca gcaatttggg aggctgtcgt 420
 ggttgatct cttgggcctg ggagttcgag accagcctgg gcaatgtggt gagaccccat 480
 ctctacaaaa gacaacaaaa aaattagctg ggtgtggtgg cgagtgcctg tagtcccagc 540
 agcttgggag gctgaggtag ggggatcact tcagcctggg aggttgaggc tgcagtaagt 600
 cgctactgag ccactgtact ccagcctagg tgacagagca agacttcac ttaaaaaact 660
 aagccctata ttaggggtccc cttctcttc cttctttcta tgaatgatct gtattccttg 720
 cattcctggc tttctaattt ccatgtttgt tctggggctg agaataatcc aatcatgct 780
 cctgagccta tatattttta atgcttgctt aaaacttagt tctctgactt tacaggttga 840
 gaatattgaa cctatataca aatcttcaca catttgcaa aggttcctag ccaatgtaac 900
 ctagggaat aaactagata aactcctgaa gtcatttcaa acccactcaa atttatccca 960
 cagacattcc aatttctaga aagctttact ctctcaccta gattctcttc cctccaaagc 1020
 ttgtgtcct cctgcctata caattctgga tgggcttcaa atacttacca gtccagaatt 1080
 cttgtctcct caaggtgtga ccagctggc aacagataat tacggtagtt ctggagctgg 1140
 ttggcatggc aactatcatg gaccagaca tgagacacac aaggaatccc actggcaagg 1200
 cacaggaagt acttccgggt tcgacaatgc tgatccgcaa ttagaagaca ctggttaagt 1260
 gtgttacact gcaagaaaag aagcagagcc aatgggtttg gtgacttctg tggaaagctc 1320
 ctaagcagca gccataatga gccatgaaga gcagatctga agactcccaa ctactaccca 1380
 aaatgtgatt tagtctatcc tgcccaaggc cactcttctc actggaaggc ccaagtaatt 1440
 tccatagatg ttctctctgc ctacactgca gcatactgag gacctaaac ctcaacggac 1500
 aacaaaaacc tatgaactca gcctttcagg ctaaaaatca gcaaccctaa taggggttct 1560
 tactactaaa cataaacatc aatcttcttt tgtcccagca acagaaccat agccattaac 1620
 taaccaagg tctaccttc tcttccctat acacaacaaa aattctattt catgcaaaaa 1680
 cattttggca gtttctcagt tctgaaatc tctggctact ttatccaggt tccccaccc 1740
 ctcccaggcc tcttctcaac acagcaagtt ggctcttctc attgccacta tattaggtta 1800
 cacaagaaa ctctcacct gggcttcatt gaaatcttca aggatatagc cagctcctgc 1860
 tcgaagctgg gattctgtat actgcttggt gaaaggagga atttcaaaa attctatatt 1920
 aaaaaaaaaa ccaagataat aaaaa 1945

<210> 170

<211> 1559

<212> DNA

<213> Homo sapiens

<220>

<223> nbla24821

<400> 170

atatttaatg taattactga tatatgtggt tgcattcctc ctcttttacc tcatttttac 60
 tctttatatt acttgactat tgtttgtgca tgcattctgt tgtgtgtgtg tgtgtgtgtg 120

tgtgtgtgtg tgtacacatg tatttcccta aagtgattgg ctggtcaaaa ctgtacagta 180
ccacataccc catccccaag gcccataatt taccatttta gcaactttat aagatgaaat 240
ccttataactt catttatctt tccacgttct ctgtttttgc ctgttcaggg cacaggtctt 300
tcctttctgc cttctctgat acttctcaa aacctgtgcc aatcatacct gtagctgtgg 360
actttgctga gagagtctag tatttttagc acaagctgta atgagagtgt cattgacagg 420
gtgttgcttc tctttcagta atccatacca ccagctgtgt gatttgcctg tcatctatct 480
tcacccactc atatgaactc actctcttac tgcctctct ctcctcccct ttgtctccat 540
ttttgcgttt ttgtctttag atctctgttc tcatttagat ttgtgttata ggacctttc 600
aaatgggtta cgtaggttgt atattctttg acacccatca tgacaaaact attaatacct 660
ttctttctga aatgtgagtc atattttgcc tagctttctg actcatatca gagttctttt 720
ctctccgaca tatagaagtt attctacagt tttctaagtt ctggttttgc aaatgagaat 780
tcaacttact ttccattgta aactttacat ttctcattct ggaagagcat ttgattttca 840
gtttatcctt gaaagtaaaa aatttgaaaa ggatacgtct tgttgtatgt gtgtgttctt 900
attaatcaca ctacgtgagc cctctaagtc tagaggactc aaatctagtg attgtaatat 960
gggagcaaaa tgatgtactg gcttctccac ctgcagcatt tattttctat attagtagta 1020
ttattttatt tatgtatatt cagaatttat aaatttaaaa ctagtaaaat atttaagaat 1080
ttcaattaca aacatttaaa ctaaatgat taagtattta caaagataaa ctttaaacat 1140
attattcaaa tatgttatta gcagattaat taaaataaaa tatcaaaata agcattacct 1200
aaaatgaaaa accttaatct ggaaaaaag gtaaaagtaat actatttttt ctttttaaaa 1260
aggtataatt aggccgggca cagtagctca cgcctgtaat ccagcactt tgggaggcca 1320
aggcggggcg atcacctgag gttgggagtt cgagaccagc ctgatgaaca tggagaaacc 1380
ccgcctctac taaaaaatac aaaattagtt gggcgtggtg gcaggcacct gtaatcccag 1440
ctactcgga ggctgaggca ggagaatccc ttgagcctag gaggcggagg ttgcggtgag 1500
ccaagatcgc gccattgcac tctagcctgg gcaaaaagag caaaactcca tctcaaaa 1559

<210> 171

<211> 3106

<212> DNA

<213> Homo sapiens

<220>

<223> nbla20026

<400> 171

ttttcttgta cattttgcct cacctacctc aaggctagag cagttttgcc agctctgtgt 60
gcttcacccc agctgcttgc agccagttag agaagctttc cattcttcct ggaccttctg 120
ggcttgggga agctgtgggg ccatctatgg ctcttaggc cacctgttcc acatgcatgt 180
ctttagcatc aaatgtgctg gttgtgggag gaccatggga cttactggc ttctacact 240
gcttgagaa cagaaggctc aagtgatccc tgttttcagg ttcatataac ctattgtggg 300
gttcttctgt tccctccca gggatgagtg atgaggactc agggctcctt cccacagatg 360
ctgtcccag acacagctgg gtctggctgc ttggcttccc ccgagaactc tccctgagcc 420
ctctgcttat gacattgctt cacttttggt acatcgctta atttttgtga tgttgcctca 480
cttttgcatt attttatcca tcagaaagaa ggcaccaggt ctaaccacac ctctgaaaa 540
ggggattgca cagaggcaca aagacctctg gtgtttccag tccgggtaga ctggctgtca 600
ccactggggc actggtgggt acctgtgagc tgatgagtg gaccaaaccg ctctggccac 660

cttggacccc attcctccca ggctttgtct ctccctgagc cctgcgcttg agaacattaa 720
aagccatgcc ttggaccccc ttgttctgag tcttgccatg ggccgtgagg acagccggcc 780
actcttcctg gtgagcagat tgtcacttgg ctccagctgc acgtccagct cttccgctgt 840
tttgctcacg gtaaatgcgt cactggagaa gggaagggtg atttttgcgg ttccacgtgc 900
ctggcacaag gataatcatt ggtaaggaaa ctgttggag aatgtgtgaa ggcccagggt 960
ttgttcttcc ctctcttcca gctgtgctta ctggctggag agaagggttt ggattcgtct 1020
cgttactctt ggctgctggg cccttcttcc tttgtcggct gttcagaagt gggaaaatat 1080
atatTTTTTT atccctctcc ttctttgtct ctttgtctgt gtctgtctgt ctgtctctct 1140
cacgcacaca ccctccatcc tctgatccca ttctagcttc cctgctttat ttccactga 1200
tttctttaat gcccacatca catataaact aaaccatttt ctgttccttg cgttctggct 1260
cttgggtggt cctagttaac cagctttcac agggcagcgt ttcccctttg gtgtgattca 1320
cattaaagggt gagacttaga cgctgtctga agtgcaggca atttactctg gcagcaatct 1380
cacaacacgg acagcaggag caggctgggt gccaaacaca aggtccagat gaccacccga 1440
ctgggaaggg tctccatctg gcgaccgttc tcggagttag agggattctt cctcctttct 1500
tacacctgta ctcatccag gtcagttccc aggtgtttct ttcataatgg agctttaagc 1560
tattctggta agggtagct ttgttttaag gtttgtgaaa gttgtgtctg tgctagatgg 1620
ccttatctct agggcaacta ggattttggg atccagttag catagagacc cagtaatccc 1680
tgggccaggg ctggaaatcc caggccagggt tgcatacat tgctaagtgt gtaggtcctg 1740
tgagatgttt gagggtggct atggctgtca ttaatcttat agccatggta tctcatagta 1800
tactacagtg tgtctttgtt tgtgttagtc tactggaaat gacctctct tatgactcta 1860
acatttacc ctttcttaa aaaaatctgc tgtaaagcaa tatttacaat cagaaacctg 1920
gaaaatatac aaatatatat ctctacatt gtagaatgat ttctatgcat atatataat 1980
aagaaatagc gaaatgtata aagtagaaag caaaacccca taactttatc acctggctgt 2040
aatcattccg attcattctt ttagattatt tttcttctt ctttctttt ctttcttct 2100
ttgcaactcc ctgatatgat gagagatcct tgaggccac ttcaagtga agtctctca 2160
gacacctttt tatatcatta ttctagcca aaagagatgg tgtctttctc agtaccctca 2220
gaatgttagt gctcctgtct gtcactgtgt gttcgggtc attgtattag ttatctattg 2280
tattgcaaat tcccccaaa attatctatt gttgtattgc aaaaattact attgcaaat 2340
agtggcttaa aacagcagcc atttactatt acacagtctc tctgggtcag gagtctgtat 2400
ccagctttac taggttctct gtccaggatc tctgacaggc tgcactcaag gtgtcagcgg 2460
actgcagtct cacctgaagg ctcggttagg ggggaactgc atccaggctt acgcatggct 2520
tgagggtctc caggccttgc tggctccctc agacctttgc cacatgggcc tctctgttga 2580
gcagctcact gcatggcagc tggcttccag cagagtacc aggggagaca gcaagagagc 2640
ctttttgtaa tctgatcttg gaggtgacat tgccttact ctgtcatatt ttattcatta 2700
ggaagaagtc accaggctca accacactc atgggaagag ggttgacaaa aggcataaag 2760
accaggagc agggaccact ggggtccatc caagaagttg cctgccgcag acaatcctgc 2820
ttatgagcct gtgctggact gcatgccatc ttgggcagag ccctgcctta tctttatatg 2880
tctaattgaga tctgtatct tgtgcctgat gggcactcag aaaccactt tgcgtttccc 2940
tctttcgtct ctcatagcag gcgtggtggc atacgcctgt ggtctcagct gcttgggagg 3000
ctgaggcagg agaattgctt gaacttgcga ggtggagggt gcagtgagcc gggatcacgt 3060
ggctgcactc cagcctggct aacagggcaa gactctgtct caaaaa 3106

<210> 172

<211> 1668

<212> DNA

<213> Homo sapiens

<220>

<223> nbla20421

<400> 172

```
ctttctgcgc tagtttatta catttagtac atttgtattg tatgaaaagc aacagcccag 60
attatttgat ccccgctcgt gttaatcttt ccttcctgcc tctcccittt tttttttgc 120
ggcgcggggg gcggttgcc tttctttgtt ttgtttttt tttctatgtt cctgtccctt 180
atttttaaaa atctctttta gcaacaggga tatcatcacc acgctggat cctcacatgt 240
gtgggttttg ctgagctagt agaaaatgat ccaaagatga ttggtgacca aatgtctgat 300
tgcaacattt cgttttcctc cgtggtacat agctccaggc tgccagtctc ctatttgttg 360
ataatcccgt gggcactggg ttcagttatg tgaatggtag tggcgctat gccaaaggacc 420
tggctatggt ggcttcagac atgatgggtc tcctgaagac cttcttcagt tgccacaaag 480
aattccaggt aagcaaagac tcaggaacag ctaagtaaag ggctggcaat atcaactcta 540
catccatcag cataaacctg aactgcctcc agagttaaag gcctagctga tttcagagaa 600
aactttttta ttcccaagat tgggttgttg acttttgtt ctgtcatctc taaagttgat 660
atttaacttg aaagaatgac ctggagtgga gcattctaag cagacgcaat aatcagatat 720
ggagtgttg gggaggaaga caaagcagat ttgtttttt ctggtcatta cgtgcaatag 780
aaatttgaaa ttaatttgtg tgactcagaa agcaatcaag gtagttaatt ctgtgtaaat 840
tccttttctt gctagacagt tccattctac attttctcag agtcctatgg aggaaaaatg 900
gcagctggca ttggtctaga gctttataag gtaatggaaa ataactttgt tgttatggtt 960
ttggacagaa aatcaattat gttactttta tgtactcacg tgctattaaa tatactttga 1020
atagggccat gtacatgcag agtacgatta aatctgtagt aataaccata aaaagttttt 1080
aaaagaagaa tgaagattgc cctgctagat ctggaacaag atataaagca tgagttagta 1140
aaagaatgtg gtactaacat agcaatagac aaataggta attgcaacag gatacagaat 1200
ccagaaacac acacacatat atatgtatgt gtatcatata tttgtatttt atataaatat 1260
atatgatcat atataaatat aagataacgt ttcaaatcat tggggcatgg atataatgtc 1320
gataaatgtt atggagacaa atacctatca ctttggaaaa tagaaaactt gtattcctgc 1380
cttgtataaa atattaattc tggatggatt aaaatctaaa cataaaaata aaaataatgg 1440
agacaaatac ctatcacttt ggaaaataga aaacttgtat tcttgccctg tataaaatat 1500
taattctgga tggattaaaa tctaaacata aaaataaaaa ttaggacaga atgcagtggc 1560
ccacgcctat aatcccagca ctttgggaag ccagggcagg aggactgctt gtgaccagga 1620
gttcagacc agcctgggca acatagcgac accctgtttc tacaataa 1668
```

<210> 173

<211> 1559

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22298

<400> 173

```
gctgaaaagg gaaaaatcgt gggcaattct gacgccagt agcattgcca gttcttcctt 60
```

caggcactgt tctataggga aggaggttag aaactcagat tcatggatgt tgctaagagc 120
 aaccggaac tcagacattt ttactgtgc tttccttggc atgccaactc gaaggagaaa 180
 tgtagcaat ggggcacagg gagaaaccgt gccagtaggt atggtattgt taggtaaaat 240
 ggagcagcct tgcttgtttg gggaaccttt cagtctcccc aactatggac tatcgggttc 300
 ctgattttcc aagtccttgc tgagggtggg atgttgtgtg gatgatgtct ttccctctg 360
 cagtgttgtt ggcacacaca gacgtgtgaa ccttgaccac aggctcgaca caccctggtg 420
 tcatcgggtg ggttgtgttc cagtggccct gagccaagca agacccagg aaagactctg 480
 gaaaactgaa gggggctgga tgcacccac agtacatacc ttgtgcctgt aacgaagcag 540
 gcaactggtt catttaggaa aggtattgtg tccgaagccc catttttaga ctgttaaaag 600
 tatacaaca gaaacgaaca ccattgcctt aggtgcaaag cacacttttt tattttaata 660
 gaagcccagg cttgcacaac accaccttca tgaagattgg tcatttctga ggatgacaaa 720
 accacaaagt ttattgagat tgctccttca ttgacagtct ctaagcactt cagaagcaat 780
 gacaaggcaa actctgtggg atgatgacaa ggttccctcg cgctcggca gtggagagt 840
 tgtctgagcc aggtgtctg tggggagacc ccacccacc cctgagacct gggtgacttg 900
 gcacctgtcc acggctctgc ttctccatcc acaaatggga aatatcacag gccctgcctt 960
 gtgtgttatt gatataagaa cttggaaaag agcttgcctg aatagtaagc atggtagatg 1020
 ttggtgcaa taaataattg tgttgcctgg aactcagcaa cattaggata atattaaaaa 1080
 taaaatttaa agatttttct gggatatgtg ttaattgcaa cggttaaata aggtaaactt 1140
 catgaagaca tgtatagaat tttagttatc tataggtaaa ctacttattt taattcatca 1200
 tggactaagg ggacaaaact gcaccacac acacacatac acacacacaa acgtacacac 1260
 agtaaatatt ttcatgatat cgtctaggga tgtcaaatta acaaaaatta acataaaaaa 1320
 agatgcattt tcaatgagat tatcatcaga tattttttat gaacagctta aatagaatga 1380
 agacttgaa ggatttgggg gaaggctcgc atgtgagtgt gtgtgtttgt ttgtgtgtgt 1440
 gagtgtgtgt gtgtttgcc ttttttccct ttgttttcag gatagttcca ttagaaaaa 1500
 aaagctttcc taccaaatit gcagatatct gcaataata ttctgccaag aagcaaaaa 1559

<210> 174

<211> 1557

<212> DNA

<213> Homo sapiens

<220>

<223> nbla22549

<400> 174

gaaaaaacta aagtaccttg aaagggttaca cattcagcaa accatgaaga taatagctat 60
 tctttattaa aactgtgtg ccaagcaata gactaggcaa ttttagata cgttacctgc 120
 aacctgtaca acatttctac actttatgga tgggaaacgg agacatggga agtgtggctg 180
 agttgttcat ggatgtagaa atagtaaagc gcagagtagg aaagtgaac cgcctatctc 240
 tgacctggag gtctgcctgt atctttccca ctccaccaca ctgcacgtgg gtgtcccgaa 300
 accaccttcc cagattcctg actctcagta attttattat ggacaacatg catgagtagt 360
 catcatattt ttcaagtga atatcgggac atgatataac acatgactta acaatggtac 420
 tgaatatttg aaatcaggcc tttcccgaa aatcatgcat gaaggatcat tataaacaaa 480
 catagcaacc agttgtctcc ccgaacttgt cacttttctc ataaatgtct ggctggagc 540
 tccaaaatca tccaaatact tagtagcatt ttagcctgag tacactttct cagttcctca 600

```

actctttgta tacctttcca ccaatataga cattctagaa tctgcttcag atgcatttga 660
aattttcacc cccatggaac tagtgattaa taccagagcc cactcttgca gttggtaatg 720
gggtggcaat caaacgttca gatgatgata aaggagagat aatggataat tctttttcag 780
agttctcact taacagctct gtgttggaat gttttaata gtcttataaa taatttggtt 840
atagtattgt tgttagttta attgaatttt atgtaagaag ctgtccaaca tcagagaaat 900
gaaattcctc ccactttctg tgtagaaca ggtctctgac agtatigatt catggaagta 960
ctaattgact tagaaaacat taagagaatg tcatttctca tagtgtttct gtttctgaaa 1020
atgaatctcc tgaattatta tctttctccc tgttacttgg ctgggggaaag agatagaagc 1080
tgtataaaca aattctcttc catgctcaaa gcaagtgttc catgtgcaca acctgctgca 1140
gactggggcc cttctcagtt aattgggttt cacaagcaat aatttctcca caacaaaaac 1200
cacaacttga agtgagtga aaagagatca atagtggaaa cagtcgcctc agtacttttt 1260
ctttctggat ttcactctta gaaatttgaa gtgtttgaga cagagtccac cttttgtgca 1320
aggcgagaac caatgaatgg actccttgtg tgaattattg catcttcttc caaagcaggt 1380
tcatcaagac tttcacagag attcattttt gttgagaagt aagggttaat aggaggatag 1440
aatttgatc caaatctagt gataaaagt tccaagcaat cataaagtaa gatattttag 1500
ggacatacca acatcttccc tttctgctaa tttcatgctc caaagatatg gcaaaaa 1557

```

<210> 175

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22420-1-1f

<400> 175

gcctactgga atggaaacac

20

<210> 176

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22420-1-1r

<400> 176

caaaggctat ccaaaagcaa

20

<210> 177

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22689-1f

<400> 177

cggattctgg tgggttctt

19

<210> 178

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22689-1r

<400> 178

agagtgaggg gaacaaagtg g

21

<210> 179

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24135-1f

<400> 179

gaggacacca gcgtagaaga g

21

<210> 180

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24135-1r

<400> 180

ggaagaaact gaggcagagg

20

<210> 181

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24350-1f

<400> 181

tcccaggaga aatgaatgg

19

<210> 182

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24350-1r

<400> 182

gtgtttggcc ctttggag

18

<210> 183

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23701-1f

<400> 183

agccctcacc ccaagtaaag

20

<210> 184

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23701-1r

<400> 184

cagcgagcta gagtgaacga

20

<210> 185

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23890-1f

<400> 185

tgaaaaagac accgggaag

19

<210> 186

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23890-1r

<400> 186

ccttggacag gttttgttg g

21

<210> 187

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21650-1f

<400> 187

cagttttctc cacggtccaa

20

<210> 188

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21650-1r

<400> 188

atgggtggct gagatgagg

19

<210> 189

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22094-1f

<400> 189

ggtcaggatt tccccttttc

20

<210> 190

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22094-1r

<400> 190

tcctagaagg ctgggctaca

20

<210> 191

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22739-1f

<400> 191

cgacgaatct ctgcaatctc t

21

<210> 192

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22739-1r

<400> 192

tgcccatgaa tctcctaacc

20

<210> 193

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23525-lf

<400> 193

tctgccatca acttctttcc t

21

<210> 194

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23525-lr

<400> 194

ccatctcttt ctttcttgca ctc

23

<210> 195

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20226rl-lf

<400> 195

caagcaacaa tgacgaatga g

21

<210> 196

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20226r1-1r

<400> 196

ggaggaatga gaatgaggtt tg

22

<210> 197

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22182-1f

<400> 197

ttggaagcag gacatggata g

21

<210> 198

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22182-1r

<400> 198

tggacacatg gtggtgaaag

20

<210> 199

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23256-1f

<400> 199

ttgggggcag gagattac

18

<210> 200

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23256-1r

<400> 200

cctggctaca tagagaaacc aa

22

<210> 201

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21297-1f

<400> 201

acaacgctag tcccacttac aac

23

<210> 202

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21297-1r

<400> 202

gctcctctgg ctcaacaatc

20

<210> 203

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20787-1f

<400> 203

gagataggtt ctcttctgag tttgt

25

<210> 204

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20787-lr

<400> 204

caggtaagtt tgcctccat c

21

<210> 205

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22284-lf

<400> 205

ctaccgatcc ccagacaca

19

<210> 206

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22284-lr

<400> 206

cagcaacagc cagaacca

18

<210> 207

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20123-lf

<400> 207

cgagagccat gcaaaaacac

20

<210> 208

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20123-lr

<400> 208

gcacagaaaa tggaggcaga

20

<210> 209

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20382-lf

<400> 209

gttcagtgca gtcaggatgg

20

<210> 210

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20382-lr

<400> 210

gtcacactct ttgctttgct tg

22

<210> 211

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20660r1-lf

<400> 211

gcgttcttcc acaccaaac

19

<210> 212

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20660rl-1f

<400> 212

tccgaggaaa aggtgcttac

20

<210> 213

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20666-1f

<400> 213

tctggctggg tttatagctt g

21

<210> 214

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20666-1r

<400> 214

taccggctgt tgggtgtg

18

<210> 215

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21239-1f

<400> 215

gcccagccta tgtctgtatc

20

<210> 216

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21239-1r

<400> 216

tcctggtaca ctgcctcttc

20

<210> 217

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21729-1f

<400> 217

gacatttcta ccaatctgtg tgtct

25

<210> 218

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21729-1r

<400> 218

cacttggtgct tcttttctct gg

22

<210> 219

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21831-lf

<400> 219

ggaaccgtag acttggtcgt g

21

<210> 220

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21831-lr

<400> 220

actcccagaa ttggaatgga

20

<210> 221

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22826-lf

<400> 221

gcaatccttc cccttcctt

19

<210> 222

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22826-lr

<400> 222

tgtcacgacc ttccctgttc

20

<210> 223

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23899-1f

<400> 223

cagggggatt gataacacag a

21

<210> 224

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23899-1r

<400> 224

ggatgaaatg caaggcagag

20

<210> 225

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20578-1f

<400> 225

catctgcatc caaaccaaag

20

<210> 226

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20578-1r

<400> 226

agttagaatc ccaagccgaa g

21

<210> 227

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21908-1f

<400> 227

agtctgcggg tctggtttct

20

<210> 228

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21908-1r

<400> 228

tgcaaagttc ccctgcttac

20

<210> 229

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22027-1f

<400> 229

agttggtgga tggatcttgg

20

<210> 230

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22027-1r

<400> 230

gatgaaccga aacaggaagg

20

<210> 231

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22082-1f

<400> 231

tgtgctgaaa atccgaagtg

20

<210> 232

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22082-1r

<400> 232

gcaatgtagt ggggtcgaag

20

<210> 233

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23303-1f

<400> 233

cttgagctga gatggactgg

20

<210> 234

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23303-1r

<400> 234

cagcaggcag attccaaag

19

<210> 235

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20264-lf

<400> 235

gtcttctcta ccctctccct taatc

25

<210> 236

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20264-lr

<400> 236

caccagtcct agcagcaaca

20

<210> 237

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20269rl-lf

<400> 237

agccaaactg gaggtgatg

19

<210> 238

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20269r1-1r

<400> 238

ccgtgaaagg ctgaaagg

18

<210> 239

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20406-1f

<400> 239

tccaactcac agaaatgcaa g

21

<210> 240

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20406-1r

<400> 240

aagtctcatc caaagccaaa g

21

<210> 241

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20949-1f

<400> 241

ttcaaactat accctccctt tg

22

<210> 242

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20949-lr

<400> 242

cagttggttt ccacattcct

20

<210> 243

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21251-lf

<400> 243

cttctttccc aagtgccaag

20

<210> 244

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21251-lr

<400> 244

tggctcaata accacaggaa g

21

<210> 245

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21334-lf

<400> 245

tggctgggtt attcccttt

19

<210> 246

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21334-1r

<400> 246

gttcaatgtt ctcttgctac ttgtg

25

<210> 247

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21356-1f

<400> 247

actgaggaga tggagtgggt g

21

<210> 248

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21356-1r

<400> 248

atatgggctg atggttgga

19

<210> 249

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21418-1f

<400> 249

gagggtgagc tgggatatgt t

21

<210> 250

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21418-1r

<400> 250

accggcctct ctgttttct

20

<210> 251

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21480-1f

<400> 251

tgggagcaga acaaaatgaa

20

<210> 252

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21480-1r

<400> 252

aacaccatca accagaacag ag

22

<210> 253

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21509-1f

<400> 253

caaagacagt ggaagctgga

20

<210> 254

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21509-1r

<400> 254

ctgtttgtcc caggaggtg

19

<210> 255

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21527-1f

<400> 255

ggacaggtag tgtttgggaa g

21

<210> 256

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21527-1r

<400> 256

cgtacccag atggagaga

19

<210> 257

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21551-1f

<400> 257

caggaaaacg tggaagttgg

20

<210> 258

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21551-lr

<400> 258

acagtgccca gacacacaga

20

<210> 259

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21735-lf

<400> 259

catggctcta aaaggacaag aag

23

<210> 260

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21735-lr

<400> 260

tgcctgaagg aactgaaga

20

<210> 261

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22247-1-lf

<400> 261

caccgtcctc acattcaca

19

<210> 262

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22247-1-lr

<400> 262

ttcatccaag ctcgacacac

20

<210> 263

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22477-1f

<400> 263

cataggaggc ttgttttcca

20

<210> 264

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22477-1r

<400> 264

tcgtaggcaa atcagtcaaa g

21

<210> 265

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22639-1f

<400> 265

tgacagcaac ctgcaaagag

20

<210> 266

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22639-1r

<400> 266

aagggataga caccgcaaca

20

<210> 267

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23174-1f

<400> 267

ggagggatca ccaaaacaaa g

21

<210> 268

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23174-1r

<400> 268

ttatgctctc tgaaggggaa tg

22

<210> 269

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23198-1f

<400> 269

acaggcagtc ctcgctttc

19

<210> 270

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23198-1r

<400> 270

cagggtagct gtaaaaatgt tggt

24

<210> 271

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23328-1f

<400> 271

tgacacacac aagactcaag acc

23

<210> 272

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23328-1r

<400> 272

atccaggcaa tatccacacc

20

<210> 273

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23420-1f

<400> 273

ggagcacagg ccatcaaag

19

<210> 274

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23420-1r

<400> 274

aggggacgaa ctctgaaaca a

21

<210> 275

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23483-1f

<400> 275

gtaagtacgt gagccagtca tcc

23

<210> 276

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23483-1r

<400> 276

cacctgtaac tgaccagagc aa

22

<210> 277

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23808-1f

<400> 277

tgttatgatt ggtcaggggt ct

22

<210> 278

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23808-1r

<400> 278

caggtggat tagtgtctc tc

22

<210> 279

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23851-1f

<400> 279

cttttgacgg ggatttttg

19

<210> 280

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23851-1r

<400> 280

accaccgtta ccagtttgtg

20

<210> 281

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24011-1f

<400> 281

gctgcaactg agacactgga

20

<210> 282

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24011-1r

<400> 282

gtagcccatg aagtgggaag

20

<210> 283

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24235-1f

<400> 283

gagatgaaat gtcttgagga atgag

25

<210> 284

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24235-lr

<400> 284

tgcaaagatg aaatggtcag g

21

<210> 285

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24556-1f

<400> 285

gagcacaaag gatgggtagg

20

<210> 286

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24556-lr

<400> 286

ctgggagaca gacagaacac a

21

<210> 287

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24800-1f

<400> 287

tgctgagtga tcctgttgag

20

<210> 288

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24800-1r

<400> 288

gccagggttt agcatctgt

19

<210> 289

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20001-1f

<400> 289

acagtcttct gttaggggat gg

22

<210> 290

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20001-1r

<400> 290

gcagtatgaa cgcgacaaag

20

<210> 291

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20083-1f

<400> 291

gccagaatag aaggagaga ga

22

<210> 292

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20083-1r

<400> 292

tcttaccac ccaaattccat ac

22

<210> 293

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20182-1f

<400> 293

atttgagtga ggccaacagg

20

<210> 294

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20182-1r

<400> 294

ctggtgcttt gggtatgga

19

<210> 295

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20248-1f

<400> 295

gcagaataac taaggcaca ca

22

<210> 296

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20248-1r

<400> 296

gaatcccatc aaacagacag ag

22

<210> 297

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20250r1-1f

<400> 297

ggcccatagc cagatactcc

20

<210> 298

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20250r1-1r

<400> 298

taggcatacc ccctttcca

19

<210> 299

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20330-1f

<400> 299

gccaaaggtga cagaggagtt

20

<210> 300

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20330-1r

<400> 300

gttccagttg tttccggttc

20

<210> 301

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23983-1f

<400> 301

gctcctagat tgtactgggg ttg

23

<210> 302

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23983-1r

<400> 302

tggcttttgg aagaactgga

20

<210> 303

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24111r1-1f

<400> 303

tctgcatcag gcttagtgt gt

22

<210> 304

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24111rl-1r

<400> 304

ctggcatittt gaggatattg g

21

<210> 305

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24142-1f

<400> 305

tctgaaccct gttaccattc c

21

<210> 306

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24142-1r

<400> 306

tgatgaaagc cgtgaacaac

20

<210> 307

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24157-1f

<400> 307

cattctcatg tctccatttg ct

22

<210> 308

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24157-1r

<400> 308

ctttctttct accatgcgct ac

22

<210> 309

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24230-1f

<400> 309

gtctgccacc caataagca

19

<210> 310

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24230-1r

<400> 310

cctccacaac aggcacatc

19

<210> 311

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20541-lf

<400> 311

tgagtggact tcggttcctt c

21

<210> 312

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20541-lr

<400> 312

aggcagcatt cacccttaac a

21

<210> 313

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20555-lf

<400> 313

agtatgtgcg ttccgtggt

19

<210> 314

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20555-lr

<400> 314

gtgctagggg atgggtaatg

20

<210> 315

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20645-1f

<400> 315

cgctgaatat ggaggcaaag

20

<210> 316

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20645-1r

<400> 316

gcccttttct tggaggtg

18

<210> 317

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20713-1f

<400> 317

ctcccccatc gtatcctttc

20

<210> 318

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20713-1r

<400> 318

gtccggcctt tggttttc

18

<210> 319

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24250-1f

<400> 319

ggcatttggg gacctcttc

19

<210> 320

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24250-1r

<400> 320

ctgtcttctt tgccccttcc

20

<210> 321

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24254-1f

<400> 321

acttggtgcc tgaagaagag a

21

<210> 322

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24254-1r

<400> 322

actgcgttaa gatggaaaac c

21

<210> 323

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24327-1f

<400> 323

ggtgctctac tactcccctt ttc

23

<210> 324

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24327-1r

<400> 324

ggcatcatc agttcctttg ct

22

<210> 325

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24510-1f

<400> 325

ggcattagcc tggaagaggt

20

<210> 326

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24510-1r

<400> 326

cgcctgcgac tgaaaaag

18

<210> 327

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nb1a24554-1f

<400> 327

atgacagggt gggcttttac

20

<210> 328

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nb1a24554-1r

<400> 328

ccagtttcgg gatgtcctt

19

<210> 329

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nb1a24604-1f

<400> 329

ctttccctct tccccaaaac

20

<210> 330

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24604-1r

<400> 330

cttcccagaa cagcaagca

19

<210> 331

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21037-1f

<400> 331

cctgctggtt gacctctcc

19

<210> 332

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21037-1r

<400> 332

ctcatcctca tccgggtct

19

<210> 333

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21161-1f

<400> 333

actgcctgc ctgattctt

19

<210> 334

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21161-1r

<400> 334

cacttttcca caaacctcca c

21

<210> 335

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21170-1f

<400> 335

gctgcttcct ctttggttct

20

<210> 336

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21170-1r

<400> 336

ccaagtttgc atgtttttgg

20

<210> 337

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21198-1f

<400> 337

ctgcctttcc accttgct

18

<210> 338

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21198-1r

<400> 338

gtgtctgctg gtgctcctc

19

<210> 339

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21298-1f

<400> 339

taacttggcc ttggtgttg

20

<210> 340

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21298-1r

<400> 340

caacctgcct ctgaatatg

20

<210> 341

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21379-1f

<400> 341

cgatagcagg tacaatgaag g

21

<210> 342

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21379-1r

<400> 342

cacataaggt aagagatagc gaaag

25

<210> 343

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24705-1f

<400> 343

agggctaggt gtgggttttc

20

<210> 344

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24705-1r

<400> 344

gccccctcttt gcactttact c

21

<210> 345

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21385-1f

<400> 345

tgcttgctga aaagtcgaaa

20

<210> 346

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21385-lr

<400> 346

tagcgatgga aactaagaga agg

23

<210> 347

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21416-lr1-1f

<400> 347

gccaaaatca tcaccaagga

20

<210> 348

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21416-lr1-1f

<400> 348

attccccctc cctccaaa

18

<210> 349

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21599-1f

<400> 349

gagagttggg agatgtaagg aaag

24

<210> 350

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21599-1r

<400> 350

gtgatatggg tccctgtttt gg

22

<210> 351

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21681-1f

<400> 351

ggtaggagca atgactgttg g

21

<210> 352

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21681-1r

<400> 352

tcgtcagctc tgcttttgag

20

<210> 353

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21878-1f

<400> 353

ggaaggcaac acattcctac ac

22

<210> 354

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21878-1r

<400> 354

caaggtcatt ctgggctct c

21

<210> 355

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21922-1f

<400> 355

caccaagcag tgtgcctaaa

20

<210> 356

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21922-1r

<400> 356

tgaggaaacc cctaatac tatic

24

<210> 357

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22004-1f

<400> 357

ttggaatgct gtgtgtgtgg

20

<210> 358

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22004-1r

<400> 358

aggtcagagc aatgagtga gg

22

<210> 359

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22004-2-1f

<400> 359

cagtaagtgc attggcagga

20

<210> 360

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22004-2-1r

<400> 360

gctttttatg gctgctgtgg

20

<210> 361

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22085-1f

<400> 361

acccaattta acctcccttt ct

22

<210> 362

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22085-1r

<400> 362

tgcaaaagca aagagcacac

20

<210> 363

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22119r1-1f

<400> 363

gaggccacat gaaagaca

18

<210> 364

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22119r1-1r

<400> 364

ctgatgacag ggcagaga

18

<210> 365

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22149-lf

<400> 365

ccagtgtttt gctcttggt

19

<210> 366

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22149-lr

<400> 366

gaaatcctca cttggatggt

20

<210> 367

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22161-lf

<400> 367

cgaagttggt gttttctctg tt

22

<210> 368

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22161-lr

<400> 368

taactgatgc cccttagtct tg

22

<210> 369

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22252-1f

<400> 369

tgagggtcctt cttgcttggt

20

<210> 370

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22252-1r

<400> 370

ccatttggtg tgcctatatt tg

22

<210> 371

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22347-1f

<400> 371

ccttgagatt agaagagaaa gga

23

<210> 372

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22347-lr

<400> 372

agaaaggaag ggcagaaatg

20

<210> 373

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22352-lf

<400> 373

tggcattttc attgctacct

20

<210> 374

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22352-lr

<400> 374

tggaaccct aagaatcacc t

21

<210> 375

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22394-lf

<400> 375

tggtgagaga cttccgcttt c

21

<210> 376

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22394-lr

<400> 376

ctggctgtgg tttgctttct

20

<210> 377

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22423-lf

<400> 377

cagggaagaa agccacagaa g

21

<210> 378

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22423-lr

<400> 378

ggcctgaaaa gtcagagaaa gg

22

<210> 379

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22439rl-lf

<400> 379

ccatttggtc ccctccttgt

20

<210> 380

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22439r1-1r

<400> 380

ctttgagagg cgctttgatg

20

<210> 381

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22633-1f

<400> 381

caggaagacg cagggaag

18

<210> 382

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22633-1r

<400> 382

ggccttgacc ttgtggtg

18

<210> 383

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22698-1f

<400> 383

acttggcatc ttactgatgt gattg

25

<210> 384

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22698-1r

<400> 384

gctttcttat acctgggaaa tcttg

25

<210> 385

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22896-1f

<400> 385

tcgaggtgac tcttctgacc

20

<210> 386

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22896-1r

<400> 386

agggacagct tcatttcca

19

<210> 387

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23167-1-1f

<400> 387

tagagacccc ttcctatgca ac

22

<210> 388

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23167-1-lr

<400> 388

ggctacagtt tgcctctcca

20

<210> 389

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23339-1f

<400> 389

tctcagctcc agtaattcca ca

22

<210> 390

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23339-1r

<400> 390

gaaataaccc caattccacc a

21

<210> 391

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23352-1f

<400> 391

ggattggatg actccttgct

20

<210> 392

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23352-1r

<400> 392

gactccctct ttctcccttc tc

22

<210> 393

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23575-1f

<400> 393

ccagatattg atttcagagg gaca

24

<210> 394

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23575-1r

<400> 394

tggggacaag gggagaaag

19

<210> 395

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23592-1f

<400> 395

tgatggcact tctaactctc ct

22

<210> 396

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23592-1r

<400> 396

gatcttgtac ttggccttt g

21

<210> 397

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23601-1f

<400> 397

ccagcagcaa aggaaaactc

20

<210> 398

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23601-1r

<400> 398

ctgggacaat tcaaaagcct ac

22

<210> 399

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23630-1f

<400> 399

aaacgggctt tagtcatttt aggag

25

<210> 400

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23630-1r

<400> 400

gcttttcccg cccacttt

18

<210> 401

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23754-1f

<400> 401

tcagtcgtag tgtccacctt actc

24

<210> 402

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23754-1r

<400> 402

ggccaacca tattcatcat ac

22

<210> 403

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23892-1f

<400> 403

gtccttcata cggccaatc

19

<210> 404

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23892-1r

<400> 404

cctgtatcat tagtccatgc tgt

23

<210> 405

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23956-1f

<400> 405

cttctaggtg taggaggtca gg

22

<210> 406

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23956-1r

<400> 406

ggagtaggca gtagagcaga ga

22

<210> 407

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20365r1-1f

<400> 407

tcagagggga cttcttgatt t

21

<210> 408

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20365r1-1r

<400> 408

aggttcttca ctagagttgg ttgt

24

<210> 409

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20378-1f

<400> 409

tgtaaacaatg caaaggaag g

21

<210> 410

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20378-1r

<400> 410

agttatttga gggagggaca ga

22

<210> 411

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20511-1f

<400> 411

acctcaaggc atggttgct

19

<210> 412

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20511-1r

<400> 412

ctgctgctcc aggtattttt gt

22

<210> 413

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21039r1-1f

<400> 413

agaagcaata accagagata cagag

25

<210> 414

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21039r1-lr

<400> 414

aaggaggat gagtagaaga ca

22

<210> 415

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21107r1-lf

<400> 415

cgatttttagc agggaataaa gg

22

<210> 416

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21107r1-lr

<400> 416

ctccaatcca aagatacaga aggt

24

<210> 417

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21367-1f

<400> 417

cggcatggag gactagga

18

<210> 418

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21367-1r

<400> 418

gccaacaggg aggtgattag

20

<210> 419

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21790-1f

<400> 419

atttctttga gtatctgggg tcgt

24

<210> 420

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21790-1r

<400> 420

caccacccat ctagtaccat tttc

24

<210> 421

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22253-1f

<400> 421

tatgagccag aggaggatgg

20

<210> 422

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22253-1r

<400> 422'

ggccaaggta ggtctttgat g

21

<210> 423

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22355-1f

<400> 423

atgctgacct tccaggetac

20

<210> 424

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22355-1r

<400> 424

tgtgtcttca tcctcctcca

20

<210> 425

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22832-1f

<400> 425

cggctgcttg aaactcct

18

<210> 426

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22832-lr

<400> 426

tcttcccggt gtcttttcc

19

<210> 427

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23755-lf

<400> 427

gcctctgatt tttagctctc ttg

23

<210> 428

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23755-lr

<400> 428

tcctgccatc atatccttc t

21

<210> 429

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24549-lf

<400> 429

catatcaagg ggcttctggt

20

<210> 430

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24549-1r

<400> 430

gcattcacag ccttcagttt c

21

<210> 431

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20084-1f

<400> 431

ggccagtggt ctctaccatc tc

22

<210> 432

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20084-1r

<400> 432

cacacacata caaaggtcag ca

22

<210> 433

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21081-1f

<400> 433

tcgaaaaaca cggagagca

19

<210> 434

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21081-1r

<400> 434

cacagaatca tggcggaac

19

<210> 435

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21420-1f

<400> 435

gaagctggga aatggtgag

19

<210> 436

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21420-1r

<400> 436

ggaaatactc atggctgtgg

20

<210> 437

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22452-1f

<400> 437

cagtgggagt caggaagga

19

<210> 438

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22452-1r

<400> 438

acacatgccc agaaagcac

19

<210> 439

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22595-1f

<400> 439

catgaccttc agatagttac cc

22

<210> 440

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22595-1r

<400> 440

attattgggt ggtagacaga ca

22

<210> 441

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22676-1f

<400> 441

gtggtttttg gtggttgag

20

<210> 442

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22676-1r

<400> 442

tactgtggca ggaaggaagg

20

<210> 443

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22909-1f

<400> 443

acacggacat tacaacctta ca

22

<210> 444

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22909-1r

<400> 444

caccaaagag aactcgataa ca

22

<210> 445

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24435-1f

<400> 445

tcagcactgg atttaggatg g

21

<210> 446

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24435-1r

<400> 446

gcagagcagt acattatcag gaag

24

<210> 447

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20146-1f

<400> 447

tccattactc aagtcccaag gt

22

<210> 448

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20146-1r

<400> 448

agcgaagctg tcctgtgttc

20

<210> 449

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20170-1f

<400> 449

gactcgtcgt ttcccacct

19

<210> 450

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20170-1r

<400> 450

cctaatagcag ccactcatac c

21

<210> 451

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20216-1f

<400> 451

catctctcca ttagcccaga ag

22

<210> 452

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20216-1r

<400> 452

agaagcgagg agtagggtga g

21

<210> 453

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20657-1f

<400> 453

gacgacttga ctgatgctgt g

21

<210> 454

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20657-1r

<400> 454

caaggacaca attaggaggt gag

23

<210> 455

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20688-1f

<400> 455

ctgtctgttg actctccaac etc

23

<210> 456

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20688-1r

<400> 456

ccttgggctt ctttcctatc c

21

<210> 457

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20755-1f

<400> 457

ggatggcaga agcatcaaag

20

<210> 458

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20755-1r

<400> 458

agggtttgtg ggggatagag

20

<210> 459

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21013-1f

<400> 459

tggctgataa tgcaatggtg

20

<210> 460

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21013-1r

<400> 460

gacctttttg gcttctgtgg

20

<210> 461

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21172-1f

<400> 461

aatgctatgt tcagcagggt gt

22

<210> 462

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21172-1r

<400> 462

tgcaattgcg tgatgtgg

18

<210> 463

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21200-1f

<400> 463

accatgagga aaacaactgg a

21

<210> 464

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21200-1r

<400> 464

aatgtcccgga ctctattatc tgtg

24

<210> 465

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21255-1f

<400> 465

cctgaagccc ctgtgtatct

20

<210> 466

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21255-1r

<400> 466

ccaaaagcca aattctctcc

20

<210> 467

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21345-1f

<400> 467

gtgcaaacc cctctaaac

19

<210> 468

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21345-1r

<400> 468

tgaccagatg aaacctctcc

20

<210> 469

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21410-1f

<400> 469

cctaaacacc aaaggaagg

20

<210> 470

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21410-1r

<400> 470

ctccatctct atcttctaaa cagca

25

<210> 471

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21522-1f

<400> 471

ttgatgtgcg gactcttaat ct

22

<210> 472

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21522-lr

<400> 472

aggtgggtat tggctttctc t

21

<210> 473

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21631-lf

<400> 473

actttctggg gtttctctgg

20

<210> 474

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21631-lr

<400> 474

gcctctgtaa aatgtggaat g

21

<210> 475

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21788-lf

<400> 475

actcccaaac agtccccttc

20

<210> 476

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21788-1r

<400> 476

tcctggcttt ctccagtcc

19

<210> 477

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21897-1f

<400> 477

caacagtga gttgggaaaa ca

22

<210> 478

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21897-1r

<400> 478

ggctctggtt agaagacaaa gg

22

<210> 479

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22116-1f

<400> 479

catccccggt tgaatctct

19

<210> 480

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22116-1r

<400> 480

tcccagtcga catgcaaata c

21

<210> 481

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22223-1f

<400> 481

cattcttttg ggcctctttc

20

<210> 482

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22223-1r

<400> 482

tggggatctt atggcacct

19

<210> 483

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22344-lf

<400> 483

gtctgaagga acaggggaga

20

<210> 484

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22344-lr

<400> 484

gtctaattggg caaggaagga g

21

<210> 485

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22939-lf

<400> 485

gcaccattct ctggtttcct

20

<210> 486

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22939-lr

<400> 486

cacacctcca tactccatgc t

21

<210> 487

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23084-1f

<400> 487

gcactcgatg actaccaaaa ag

22

<210> 488

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23084-1r

<400> 488

ggataatgag taggttggt aatg

24

<210> 489

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23103-1f

<400> 489

agacggcttt tgcgtttg

18

<210> 490

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23103-1r

<400> 490

agaagttagg gctgggaagg

20

<210> 491

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23234-1f

<400> 491

ccgcatttcc aactgacc

18

<210> 492

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23234-1r

<400> 492

gatcccacaa gtttcccaca

20

<210> 493

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23369-1f

<400> 493

agccccaaat gagaaatcaa

20

<210> 494

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23369-1r

<400> 494

ggagctggag tgataagcag a

21

<210> 495

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23436-1f

<400> 495

cctagaatag ctggggagtg g

21

<210> 496

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23436-1r

<400> 496

cgagagcgtc aaagatacag g

21

<210> 497

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23511-1f

<400> 497

aatcaaggac aaagactcac ac

22

<210> 498

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23511-1r

<400> 498

agacacagta aacagggaag ga

22

<210> 499

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23860-1f

<400> 499

gtcagggagg tcatggaag

19

<210> 500

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23860-1r

<400> 500

gctctgataa gcaagtggaa ga

22

<210> 501

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23877-1f

<400> 501

tcctctcagg tgggcttg

18

<210> 502

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23877-1r

<400> 502

ctgtgcttgg atgctgtagg

20

<210> 503

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23998-1f

<400> 503

ctgtatcctg ctgttcattg tag

23

<210> 504

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23998-1r

<400> 504

agcaaaaagt cgtagcttgg t

21

<210> 505

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24043-1-1f

<400> 505

agatggtgat ctggaacatg aa

22

<210> 506

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24043-1-lr

<400> 506

cctattgacc cagcaagaaa c

21

<210> 507

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24402-1f

<400> 507

tggtatgggc actgaatgg t

21

<210> 508

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24402-1r

<400> 508

tgcagaaagg cagtttgttg

20

<210> 509

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24821-1f

<400> 509

tccctaaagt gattggetgg t

21

<210> 510

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24821-1r

<400> 510

gattggcaca ggttttgagg

20

<210> 511

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20026-1f

<400> 511

atcaaattgtg ctggttgtgg

20

<210> 512

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20026-1r

<400> 512

caagcatctg tgggaagga

19

<210> 513

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20421-1f

<400> 513

tgcaacattt cgttttcctc

20

<210> 514

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20421-1r

<400> 514

gctgttcctg agtctttgct tac

23

<210> 515

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22298-1f

<400> 515

ccaactatgg actatcgggt tc

22

<210> 516

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22298-1r

<400> 516

gtctttcctg gggctttgct

20

<210> 517

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22549-1f

<400> 517

atctttccca ctccaccaca

20

<210> 518
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Primer: nbla22549-1r

<400> 518
gacaagttcg gggagacaac 20

<210> 519
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Primer: nbla22256-1f

<400> 519
gcagccctct tcgtagttcc 20

<210> 520
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Primer: nbla22256-1r

<400> 520
ctcgccctgg tctctgtct 19

<210> 521
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Primer: nbla22968-1f

<400> 521

cagtgcattt gggagatgtg

20

<210> 522

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22968-1r

<400> 522

ctcaaaacgc caggaaagag

20

<210> 523

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24079-1f

<400> 523

gcctactgga aaagccactc

20

<210> 524

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24079-1r

<400> 524

ctgtgtgcaa atccctgct

19

<210> 525

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20211-1f

<400> 525

acaacatggg caaccacct

19

<210> 526

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20211-1r

<400> 526

gtcgtcatcg tgcaaagtcc

20

<210> 527

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20469-1f

<400> 527

gctcttcacc tcaaagtgc t

21

<210> 528

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20469-1r

<400> 528

gagttagtcc tgctcatggt tc

22

<210> 529

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21250-1f

<400> 529

tcgcctctgc actagctctc

20

<210> 530

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21250-1r

<400> 530

gtgtaaacc acatgcctcc t

21

<210> 531

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22761-1f

<400> 531

gatgagaacg ccaaagca

18

<210> 532

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22761-1r

<400> 532

aattcgggtcc aactcagca

19

<210> 533

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23631-1f

<400> 533

gcctagagca atgtcgtgaa

20

<210> 534

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23631-1r

<400> 534

cgcaggaaga taagtgtgag g

21

<210> 535

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23711-1f

<400> 535

gaccctagac cacggacatt ac

22

<210> 536

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23711-1r

<400> 536

cgctcaccac catcaaca

18

<210> 537

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24532-1f

<400> 537

agggctcagt catggatagg

20

<210> 538

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24532-1r

<400> 538

gctgggcaca cacagtaaag

20

<210> 539

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24951-1f

<400> 539

tgttttctgc atcaggcttc

20

<210> 540

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24951-1r

<400> 540

catttggttc ccacttcttg t

21

<210> 541

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24348-lf

<400> 541

gacagagtag aagaggaaca tgaaga

26

<210> 542

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24348-lr

<400> 542

catcagtttg tgggaaggtt g

21

<210> 543

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24686-lf

<400> 543

tcgaaaagcc tgcggtgt

18

<210> 544

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24686-lr

<400> 544

taggcggggc tgagtgtatc

20

<210> 545

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24756-lf

<400> 545

ttgactgtgc ttgagaggtg

20

<210> 546

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24756-lr

<400> 546

cttggttggtg gagaaactgg

20

<210> 547

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24521-lf

<400> 547

gccaaaatgc aaaggagaag

20

<210> 548

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24521-1r

<400> 548

tatggtccca aaggtggatg

20

<210> 549

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24526-1f

<400> 549

tgaaatggca gagaatggaa

20

<210> 550

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24526-1r

<400> 550

tccagagaaa aatactgcaa gg

22

<210> 551

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21212-1f

<400> 551

ctggggattt tcgttggtg

19

<210> 552

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21212-1r

<400> 552

tgtttctggg ctgtttatcc t

21

<210> 553

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20604-1f

<400> 553

atcgtcttca gatggagctt g

21

<210> 554

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20604-1r

<400> 554

atgtgacccg acgttgatg

19

<210> 555

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21226-1f

<400> 555

gcctcagtgg atggtaaag

20

<210> 556

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21226-1r

<400> 556

ccaagaagca gaaaagcaag

20

<210> 557

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21928-1f

<400> 557

ctcaggtttt ctgcatagtt

20

<210> 558

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21928-1r

<400> 558

tgatagtttc caaggttaagg

20

<210> 559

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22643-1f

<400> 559

ctggtttata ttggatgaga gtgg

24

<210> 560

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22643-lr

<400> 560

agatgaaatg gaagtcaca ag

22

<210> 561

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23649-lf

<400> 561

tgtatccagt tgccaaggt

20

<210> 562

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23649-lr

<400> 562

cacagcagaa gccaaagaaa g

21

<210> 563

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24468-lf

<400> 563

cgacacaggt tctgcttcct

20

<210> 564

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24468-1r

<400> 564

gccttctctc ctccatcctt

20

<210> 565

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20874r1-1f

<400> 565

accagctct tatcccttaa tct

23

<210> 566

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20874r1-1r

<400> 566

gccttcacaa caaagttctc c

21

<210> 567

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20134-1f

<400> 567

gtaactaggg ggccacattc

20

<210> 568

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20134-1r

<400> 568

gacaacacgt ctgcaccttc

20

<210> 569

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20181-1f

<400> 569

cgtgtaaaga aacccaaagg ag

22

<210> 570

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20181-1r

<400> 570

tctaccacgc ggagtttgag

20

<210> 571

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20276-1f

<400> 571

ctatctccca ggattttgct ct

22

<210> 572

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20276-1r

<400> 572

ccaggaagct ggaacctct

19

<210> 573

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20709-1f

<400> 573

gattagtgg gacctgcctt g

21

<210> 574

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20709-1r

<400> 574

caatgctttt tcggaggaga

20

<210> 575

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20782-1f

<400> 575

caaagatggg aacaaccagt atc

23

<210> 576

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20782-1r

<400> 576

actgtctatg aagtaaggca agca

24

<210> 577

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20788-1f

<400> 577

ctggactcag gagaggagac a

21

<210> 578

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20788-1r

<400> 578

gaaagccacc caaaccaag

19

<210> 579

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21046-1f

<400> 579

tcttggaggt gtgcagagat g

21

<210> 580

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21046-1r

<400> 580

tctgtttcgg gctggtagtg

20

<210> 581

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21122-1f

<400> 581

ctagaagctc catattccct cttc

24

<210> 582

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21122-1r

<400> 582

ggttaagaac gtgatgcctg t

21

<210> 583

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21211r1-1f

<400> 583

cttcagctcc tttccaatc

20

<210> 584

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21211r1-1f

<400> 584

accatgtctt gtggtggtgt

20

<210> 585

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21233d-1f

<400> 585

atggggaatg gtctgcttc

19

<210> 586

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21233d-1r

<400> 586

ctccctcttc caaggatgtc t

21

<210> 587

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21375-1f

<400> 587

ctttgccatc ctgaaagaga g

21

<210> 588

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21375-1r

<400> 588

gtagcagacg atgtggtgga

20

<210> 589

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21524-1f

<400> 589

cctcgaaaga tccctgattg

20

<210> 590

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21524-lr

<400> 590

tcccagctcc agaacttacc t

21

<210> 591

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21843-1f

<400> 591

ccatattggg agacaccatc

20

<210> 592

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21843-lr

<400> 592

atcctgaccc tgcacctt

18

<210> 593

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21934-1f

<400> 593

gattttcagg tgggagattt g

21

<210> 594

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21934-1r

<400> 594

tctgttttgt gccttttttg

20

<210> 595

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22153-1f

<400> 595

gctgctgaag aaatagtgga ttg

23

<210> 596

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22153-1r

<400> 596

acgatagggtg gcattgaggt

20

<210> 597

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22382-1f

<400> 597

gtgcctgtga tattgagttt aagga

25

<210> 598

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22382-lr

<400> 598

tagtgagat gggactacaa aagg

24

<210> 599

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22571-lf

<400> 599

gtcatagtgc ccaccaca

18

<210> 600

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22571-lr

<400> 600

ttgcacagga gaaatgga

18

<210> 601

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22789-lf

<400> 601

gctaagggga tgaagcaaac

20

<210> 602

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22789-1r

<400> 602

agcagagcca ctccacaga

19

<210> 603

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23060-1f

<400> 603

catgcgggag agagaatgag

20

<210> 604

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23060-1r

<400> 604

tcacctttag gcaatgaaga gg

22

<210> 605

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23218-1f

<400> 605

ccttgactct ctctcccctt c

21

<210> 606

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23218-lr

<400> 606

gacacgggtc tgcctgct

18

<210> 607

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23545-1f

<400> 607

cattcactcc tttggcctct

20

<210> 608

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23545-lr

<400> 608

agcctcatgt tcgcatttct

20

<210> 609

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23653-1f

<400> 609

acccaaagct agggaatcaa c

21

<210> 610

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23653-1r

<400> 610

tcagaaacac ggccaaaac

19

<210> 611

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23666-1f

<400> 611

cgtggtggtg tgtattttgg

20

<210> 612

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23666-1r

<400> 612

gtatcgcggt gacataaaag g

21

<210> 613

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23760-1f

<400> 613

attgaggcga aagtcaaacc

20

<210> 614

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23760-1r

<400> 614

acaggactga aagaaccagc a

21

<210> 615

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23830-1f

<400> 615

tatagtgcgc ggagggacag a

21

<210> 616

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23830-1r

<400> 616

cggatggaag tcatggaag

19

<210> 617

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23942-1f

<400> 617

cgaagaagag ccagaatgag a

21

<210> 618

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23942-1r

<400> 618

tggggaaaga tttgtgagg

20

<210> 619

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24131-1f

<400> 619

ggcacataac cagtttcaa g

21

<210> 620

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24131-1r

<400> 620

gccaccaaaa ttagcaaaa g

21

<210> 621
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Primer: nbla24908-1f

<400> 621
acaaggccat cctgcaac 18

<210> 622
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Primer: nbla24908-1r

<400> 622
ctgatctggt tctccgtcct 20

<210> 623
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Primer: nbla20125-1f

<400> 623
tctcccttcg ccttcttcta c 21

<210> 624
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Primer: nbla20125-1r

<400> 624
actggttcg atgtgttgct 20

<210> 625

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20231d-1f

<400> 625

tagggtgctg gatggtagag

20

<210> 626

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20231-lr

<400> 626

catcaacttc tgcaaggaca

20

<210> 627

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20268-1f

<400> 627

atcaggacag atggggaaca

20

<210> 628

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20268-lr

<400> 628

tcagagagaa ggatttggat gag

23

<210> 629

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20395-1f

<400> 629

tttcctgagt gtgtgagatg aa

22

<210> 630

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20395-1r

<400> 630

taggccaggg acagaaatg

19

<210> 631

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23973-1f

<400> 631

agaaaagaaa cggcaacgag

20

<210> 632

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23973-lr

<400> 632

ggtgggtgag aagatgatgg

20

<210> 633

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24041-lf

<400> 633

cagtaaaggc aagggaagag g

21

<210> 634

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24041-lr

<400> 634

cttgggaaac aaaagtccag ag

22

<210> 635

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24082-lf

<400> 635

cgcaatactc atttgctgtg

20

<210> 636

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24082-1r

<400> 636

tgtagacttc tggtacaat ctgg

24

<210> 637

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24239-1f

<400> 637

gaaggaattg agagcacagc a

21

<210> 638

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24239-1r

<400> 638

atccctgcat caccacctc

19

<210> 639

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20638-1f

<400> 639

gtctgtcaac aaatacacca aaacc

25

<210> 640

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20638-lr

<400> 640

ttatccaact ccccaaagca

20

<210> 641

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20765-lf

<400> 641

tgaaagcgtc tgttgttacc c

21

<210> 642

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20765-lr

<400> 642

tgtcggaact catctacctc aac

23

<210> 643

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20789-lf

<400> 643

tgtcctgctt, cttgtttgtg g

21

<210> 644

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20789-1r

<400> 644

ggcgctcctt gtgtagtga

20

<210> 645

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20792-1f

<400> 645

ctttgtaccc ctgcctaata c

21

<210> 646

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20792-1r

<400> 646

aatacccaac ccacccttgt

20

<210> 647

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20798-1f

<400> 647

gctgcctcag aacatttg

19

<210> 648

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20798-1r

<400> 648

ggccctccac cataaataga

20

<210> 649

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21024-1f

<400> 649

tgccacatac atggaacacc

20

<210> 650

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21024-1r

<400> 650

catgctacac gggacctact c

21

<210> 651

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24363-1f

<400> 651

caaatggttg ctggtctcct

20

<210> 652

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24363-1r

<400> 652

cttcctcct ctgctacct ct

22

<210> 653

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24622-1f

<400> 653

tgccagggaa cagagagt

19

<210> 654

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24622-1r

<400> 654

tgtaaaaggg acctgagagg ag

22

<210> 655

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24646-1f

<400> 655

tgcaggcgta caactaaca

20

<210> 656

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24646-1r

<400> 656

tggtctgcga gaaatcaaac

20

<210> 657

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24672-1f

<400> 657

ccagcctctg tggtctttgt

20

<210> 658

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24672-1r

<400> 658

cacctaacgc cacgtcttc

19

<210> 659

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21077-1f

<400> 659

tgaaggatgt accccagaga g

21

<210> 660

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21077-1r

<400> 660

gataaggcca cagcaaaagg

20

<210> 661

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21089-1f

<400> 661

cacgctcaag ttcattagca ca

22

<210> 662

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21089-1r

<400> 662

tgtccaatca ccgcagtttc

20

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21130-lf

<400> 663

agcttgacct ctccagaaca c

21

<210> 664

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21130-lr

<400> 664

ggttgtctct ttaattgtcc cttc

24

<210> 665

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21266-lf

<400> 665

gacagagtgc tcagattggt gg

22

<210> 666

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21266-lr

<400> 666

cctagaggaa ggtgggctgt

20

<210> 667

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24709-1f

<400> 667

cagcctccca actcattttc

20

<210> 668

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24709-1r

<400> 668

tgggctcctt ctgcaatc

18

<210> 669

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24748-1f

<400> 669

cggtttgccc tgtttttatg

20

<210> 670

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24748-1r

<400> 670

gctcaactac tatcttggga tctcttt

27

<210> 671

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24831-1f

<400> 671

gcagtttctt catcaaaggt gt

22

<210> 672

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24831-1r

<400> 672

tctatcccat gtgttgtgtt tg

22

<210> 673

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24972-1f

<400> 673

ggtatittca accaccagga ac

22

<210> 674

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24972-1r

<400> 674

aggatagcac cattcatcac ct

22

<210> 675

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21413-1f

<400> 675

tgctgaggag tatgaagaca

20

<210> 676

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21413-1r

<400> 676

ctttatttgc agccattcca c

21

<210> 677

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21520-1f

<400> 677

tggaacctac gtctttccct ac

22

<210> 678

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21520-lr

<400> 678

acagctcatg tctgcctcct

20

<210> 679

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21936-lf

<400> 679

ccacaggaag ctatcaaaga aaag

24

<210> 680

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21936-lr

<400> 680

tacactggtg gagaggaaca ga

22

<210> 681

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22028-lf

<400> 681

tgtagggacc agaacacgag a

21

<210> 682

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22028-1r

<400> 682

cagaagcaga gacccttcca

20

<210> 683

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22093-1d-1f

<400> 683

agacactatc acgagaccca ga

22

<210> 684

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22093-1d-1r

<400> 684

agacactatc acgagaccca ga

22

<210> 685

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22218-1f

<400> 685

ggctcaggaa gagaagaaga tg

22

<210> 686

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22218-1r

<400> 686

atccaaaagg ggccatagag.

20

<210> 687

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22451-1f

<400> 687

tcctcaataa taagcctgtg tcc

23

<210> 688

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22451-1r

<400> 688

tccctgtgtt tgcttttcac

20

<210> 689

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22455d-1f

<400> 689

caatggtgga aaccagtaag g

21

<210> 690

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22455d-1r

<400> 690

agtttgggga acagtgaag

20

<210> 691

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22464-1f

<400> 691

ggacaaggca gagtgatg

20

<210> 692

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22464-1r

<400> 692

cgtgtaagga cgggtattgg

20

<210> 693

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22465-1f

<400> 693

gtcactttgc ttttgctcgt ct

22

<210> 694

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22465-lr

<400> 694

tggaacttg aaccaccatc

20

<210> 695

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22487-lf

<400> 695

aacgcctcgt cctgctct

18

<210> 696

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22487-lr

<400> 696

ccggtgggct aaaatggt

18

<210> 697

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22669-1f

<400> 697

ccgaggaaga agagcaagg

19

<210> 698

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22669-1r

<400> 698

ccaagcagat ggcacaca

18

<210> 699

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22726-1f

<400> 699

gcccagcaac aagacagag

19

<210> 700

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22726-1r

<400> 700

ctgcaaaatg ggagactgg

19

<210> 701

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22886-1f

<400> 701

gcacagggaa ccatcagaac

20

<210> 702

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22886-1r

<400> 702

caccaccaac gtcattcctc

20

<210> 703

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23012-1f

<400> 703

aggagaaaca ggagcgagag

20

<210> 704

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23012-1r

<400> 704

ttgctgagat gcgtggag

18

<210> 705

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23038-1f

<400> 705

gaaacctcag catggagaca

20

<210> 706

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23038-1r

<400> 706

ccaatcactc actcacaaa gag

23

<210> 707

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23718-1f

<400> 707

atggaaaact tgcctgctct

20

<210> 708

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23718-1r

<400> 708

tcaccacac tttatctcca ac

22

<210> 709

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23719-1f

<400> 709

ctgaacagaa aagcacaacc tc

22

<210> 710

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23719-1r

<400> 710

acaggcgggt caaatctatc

20

<210> 711

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23951-1f

<400> 711

cctgctgttc tggttccttg

20

<210> 712

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23951-1r

<400> 712

agcctgggtc tttcatctgg

20

<210> 713

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21855-1f

<400> 713

atgaaggggg aaggggttct

20

<210> 714

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21855-1r

<400> 714

gaacatgggtg ctcctttgtg g

21

<210> 715

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22704-1f

<400> 715

tcacaaatca gcaggcaca

19

<210> 716

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22704-1r

<400> 716

tgctaccaac ccctctacat c

21

<210> 717

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23394-lf

<400> 717

ttcctgagag actgggagtt g

21

<210> 718

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23394-lr

<400> 718

atagctgagg gagccgttg

19

<210> 719

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23512-lf

<400> 719

actgtccac cacaactgaa c

21

<210> 720

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23512-1r

<400> 720

ctcataatct cgtctttgca cct

23

<210> 721

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24084-1f

<400> 721

ttagcagaga catgcaaca ca

22

<210> 722

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24084-1r

<400> 722

cgtgatccaa cagaagattg ag

22

<210> 723

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24376-1f

<400> 723

aacaagccta gaggaatgaa c

21

<210> 724

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24376-1r

<400> 724

tacaagaagc gcaacacc

18

<210> 725

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21761-1f

<400> 725

cttcgccaga caaaaccatc

20

<210> 726

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21761-1r

<400> 726

gatctccccc ttcttctcct c

21

<210> 727

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23456-1f

<400> 727

ccattgcttt agtcgttgct

20

<210> 728

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23456-1r

<400> 728

aattagctcc tcctcgctgt

20

<210> 729

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24297-1f

<400> 729

acaaccattc cctaactcca tc

22

<210> 730

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24297-1r

<400> 730

ctgttactgt tgctgcttcc a

21

<210> 731

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24719-1f

<400> 731

tcgttacacc gctttgtcc

19

<210> 732

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24719-1r

<400> 732

ggcttggaac acacacacac

20

<210> 733

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20113-1f

<400> 733

gcccaaagggt tatttccaag

20

<210> 734

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20113-1r

<400> 734

cacaaggggt ggactgatg

19

<210> 735

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20253r1-1f

<400> 735

accagggata agggggaac

19

<210> 736

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20253r1-lr

<400> 736

tgctttgccc acactaaaga

20

<210> 737

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20549-1f

<400> 737

gtgcttgtct gatgggatg

19

<210> 738

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20549-lr

<400> 738

caatgaagac gctcacagg

19

<210> 739

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20835-1f

<400> 739

aaggtgacag cataggtgga g

21

<210> 740

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20835-1r

<400> 740

tgatagggat tcttgctaac tgg

23

<210> 741

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20968-1f

<400> 741

agcctggtgg ctcacatc

18

<210> 742

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20968-1r

<400> 742

gacacttgcc tcaatagggt tc

22

<210> 743

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21087-1f

<400> 743

gtgtctctcc tagtgattga ttttg

25

<210> 744

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21087-1r

<400> 744

taaaaggggt tggtctcttg ct

22

<210> 745

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21189-1f

<400> 745

catcctacag gtggaagca

19

<210> 746

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21189-1r

<400> 746

agttcttggg tgggtgaag

20

<210> 747

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21214-1f

<400> 747

aggggtaagt cagggaagga

20

<210> 748

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21214-1r

<400> 748

cctaccaggc aaagtccaag

20

<210> 749

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21337-1f

<400> 749

atttcagccg catctcacac

20

<210> 750

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21337-1r

<400> 750

gcttcgccaa cactcattac a

21

<210> 751
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Primer: nbla21344r1-1f

<400> 751
ccattttgct gattttctct gg 22

<210> 752
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Primer: nbla21344r1-1r

<400> 752
attcttcccc ctccctctgt 20

<210> 753
<211> 19
<212> DNA
<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21956-2-1f

<400> 753
ggacttgggg ctctcctct 19

<210> 754
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Primer: nbla21956-2-1r

<400> 754

gctagggcac ctgatttg

20

<210> 755

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22228-1f

<400> 755

gtatgttga gcagcgaaag

20

<210> 756

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22228-1r

<400> 756

gtcccaaag aagagttcca

20

<210> 757

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22351-1f

<400> 757

ggtgagttag ctttgagtg tg

22

<210> 758

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22351-lr

<400> 758

ggccagacga gtggaaatag

20

<210> 759

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22361-lf

<400> 759

ccctacggat caagggtac

20

<210> 760

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22361-lr

<400> 760

ctgtctcagg ggctccaac

19

<210> 761

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22474-lf

<400> 761

gaagatgctg ccctaattcc

20

<210> 762

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22474-1r

<400> 762

ccacattcct tttctttgtc c

21

<210> 763

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22939-1f

<400> 763

ggacagcagc aactcaaaaa g

21

<210> 764

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22939-1r

<400> 764

tatctatccc catgcctcca

20

<210> 765

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23775-1f

<400> 765

tgagcaatac cctgcctaca

20

<210> 766

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23775-1r

<400> 766

gtccccagtg ctaatcctac tc

22

<210> 767

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24182-1f

<400> 767

ctgacgggag aggaggaa

18

<210> 768

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24182-1r

<400> 768

gaaaaggcac cgaacagaac

20

<210> 769

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24285-1f

<400> 769

tcagacggtg aggatgatgt

20

<210> 770

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24285-lr

<400> 770

cgctgtcctt ttgcctgt

18

<210> 771

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24434-lf

<400> 771

cagaggctga gaatggtgtg

20

<210> 772

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24434-lr

<400> 772

gccttgact ggctggaaga

20

<210> 773

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24460d-lf

<400> 773

tctctgaaa gtgccagtcc a

21

<210> 774

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24460d-lr

<400> 774

tcatgccctg ccttagaaac

20

<210> 775

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24762-lf

<400> 775

agctactctg aagacctccc tatgt

25

<210> 776

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24762-lr

<400> 776

tgcattccaca cgttctcttg

20

<210> 777

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24893-lf

<400> 777

agatggattt ttgccccttc

20

<210> 778

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24893-1r

<400> 778

tacaggtaga aacaagccca ca

22

<210> 779

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24973-1f

<400> 779

tccctggagg caaacaca

18

<210> 780

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24973-1r

<400> 780

atgtgacgca gtggcctatc

20

<210> 781

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24986-1-lf

<400> 781

atggaacacc acagccaga

19

<210> 782

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24986-1-lr

<400> 782

ccagagtcag cccattaaac a

21

<210> 783

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23020-1f

<400> 783

tcaggatgag gaaatgacag g

21

<210> 784

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23020-1r

<400> 784

agtcacgctg ggaggaaag

19

<210> 785

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20087d-1f(k)

<400> 785

ccagctctcc agttttcagg

20

<210> 786

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20087d-1r

<400> 786

gttcccttc ggtagttgag g

21

<210> 787

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21750d-1f(k)

<400> 787

gatgaattgc ctccattgtc tc

22

<210> 788

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21750d-1r

<400> 788

ggtttgctgc ttctggatgt

20

<210> 789

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22129-1f(k)

<400> 789

cagatgggga gtgttctgat g

21

<210> 790

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22129-1r

<400> 790

tctagggggt ggtaaagatg g

21

<210> 791

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22808-1f(k)

<400> 791

ggaccaagat atggttttgg ag

22

<210> 792

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22808-1r

<400> 792

gcatgtattt gcctcccttg

20

<210> 793

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23064-1f(k)

<400> 793

catgaaccct tccctatgtc c

21

<210> 794

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23064-1r

<400> 794

tctttgcatc catcgcatc

19

<210> 795

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23358d-1f(k)

<400> 795

gctctcccaa atcgctac

19

<210> 796

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23358-d-1r

<400> 796

cctcatcatc cccttcac

19

<210> 797

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22443-1f(k)

<400> 797

atccttggtg gccttgatg

20

<210> 798

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22443-1r

<400> 798

tcagagtgat tgctggcttg

20

<210> 799

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20235-1f(k)

<400> 799

tccttacacg ggccataaat ac

22

<210> 800

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20235-lr

<400> 800

accgtctcaa atcgaaccac

20

<210> 801

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22607-lf(k)

<400> 801

acacatgcct agcagacca

19

<210> 802

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22607-lr

<400> 802

tgcacttcat ttagacttca cc

22

<210> 803

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22305-lf(k)

<400> 803

gcagttccaa tgaaggaca

19

<210> 804

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22305-1r

<400> 804

tcatctgctt ggtgtatgaa ag

22

<210> 805

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22031-1f(k)

<400> 805

tccctctgta ttttgggttg g

21

<210> 806

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22031-1r

<400> 806

ggtggatgtt ccttgagtgg

20

<210> 807

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23478d-1f(k)

<400> 807

agcacaacag caaggacaga

20

<210> 808

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23478d-1r

<400> 808

cgttaccaaa cagcccaga

19

<210> 809

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23896-1f(k)

<400> 809

tcccattaca ggctctttcc

20

<210> 810

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23896-1r

<400> 810

gctccttcca agatttatcc ac

22

<210> 811

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24920-1f(k)

<400> 811

gcaactccat ccaccgtct

19

<210> 812

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24920-1r

<400> 812

ccgtttcttg gctctcttg

19

<210> 813

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20141-1f(k)

<400> 813

ctgtgttacc ctgttttctt acct

24

<210> 814

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20141-1r

<400> 814

cgggctatgt atctaagggtt ttc

23

<210> 815

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20446-1f(k)

<400> 815

tagccctctt tggctcctct

20

<210> 816

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20446-lr

<400> 816

ttacagtcac gttgccagtt cc

22

<210> 817

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21538-1f(k)

<400> 817

ggagagaagt ttgaagaaac ca

22

<210> 818

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21538-lr

<400> 818

tccaccacta atttcccatc

20

<210> 819

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22558-1f(k)

<400> 819

cgggccacca gtttctct

18

<210> 820

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22558-1r

<400> 820

tcgatactcg gcctcgaac

19

<210> 821

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21623-1f(k)

<400> 821

ggaagaaaag ttccgaggtg

20

<210> 822

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21623-1r

<400> 822

ttgacagtgc tgcttggtg

19

<210> 823

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21969-1f(k)

<400> 823

caaaagcgtc ctgctctaca c

21

<210> 824

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21969-1r

<400> 824

acgagactga ccaccaga

19

<210> 825

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22219-1f(k)

<400> 825

tgtggttcat agtgaggtgg a

21

<210> 826

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22219-1r

<400> 826

gagcaagttt tggctttgtg

20

<210> 827

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23272-1f(k)

<400> 827

ctagggacag gaagatggtt g

21

<210> 828

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23272-1r

<400> 828

gatacaggtc atgggcagag

20

<210> 829

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23307-1-1f(k)

<400> 829

atccctcaga acccatgct

19

<210> 830

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23307-1-1r

<400> 830

cgctcaactt ccacttctcc

20

<210> 831
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Primer: nbla24117-1f(k)

<400> 831
gtcctgaagg cagaggaag 20

<210> 832
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Primer: nbla24117-1r

<400> 832
cagggttggg gtaagagagg 20

<210> 833
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Primer: nbla23262-1f(k)

<400> 833
ggacaagagc caggaagaa 19

<210> 834
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Primer: nbla23262-1r

<400> 834

ggtggaaagg tttggagtat g

21

<210> 835

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20133d-1f(k)

<400> 835

gctacgtgga agtgaatgga g

21

<210> 836

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20133d-1r

<400> 836

ccagaaacag accccaagag

20

<210> 837

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20263r1-1f(k)

<400> 837

tgggggaaaa gttcttgg

18

<210> 838

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20263r1-1r

<400> 838

gcctgtcctg tagctggtt

19

<210> 839

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20723-1f(k)

<400> 839

agatgccaaa cgcagaac

18

<210> 840

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20723-1r

<400> 840

ttgaagcaaa cactcaccaa

20

<210> 841

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20748-1f(k)

<400> 841

catccatctc acagcaccac

20

<210> 842

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20748-1r

<400> 842

tctcacgcag caactcaatc

20

<210> 843

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20915-1f(k)

<400> 843

ggatcagaga gggctacctt g

21

<210> 844

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20915-1r

<400> 844

cctgctgttt ggtcgtagtg

20

<210> 845

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21016-1f(k)

<400> 845

agtttactct tgcccactcc a

21

<210> 846

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21016-1r

<400> 846

ctggatTTTT gccctgtctc

20

<210> 847

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21034r1-1f(k)

<400> 847

caatcaccag ttgctgtcct

20

<210> 848

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21034r1-1r

<400> 848

atttccagct ctcccctatg t

21

<210> 849

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21067-1f(k)

<400> 849

tgagaagagg agtgcaagga

20

<210> 850
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Primer: nbla21067-1r

<400> 850
tgcatggatt tgggtttg 18

<210> 851
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Primer: nbla21167-1f(k)

<400> 851
ttcttctctg tccccaaca 20

<210> 852
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Primer: nbla21167-1r

<400> 852
gagctgtcaa tacaactg ga 22

<210> 853
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Primer: nbla21319-1f(k)

<400> 853
ttgggttca tcctcctc 19

<210> 854

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21319-1r

<400> 854

gttgaggtcg ttctccgtgt

20

<210> 855

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21331-1f(k)

<400> 855

tggcaggttt tcttctactt gtg

23

<210> 856

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21331-1r

<400> 856

tcccagctaa catggttgat tt

22

<210> 857

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21516-1f(k)

<400> 857

gcaggaagcg atggtaaga

20

<210> 858

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21516-1r

<400> 858

gcccaagtag gaatctgtgt g

21

<210> 859

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21682d-1f(k)

<400> 859

aatctacgct tcccaaacca

20

<210> 860

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21682-1r

<400> 860

taggcactgg gcaatgatac

20

<210> 861

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21691-1f(k)

<400> 861

gcaggtgaat gccttggt

18

<210> 862

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21691-1r

<400> 862

gcacgaattg cttggagag

19

<210> 863

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21822-1f(k)

<400> 863

gcagaggatg gaaagttgat g

21

<210> 864

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21822-1r

<400> 864

gtggcagcac aaagaaaaga

20

<210> 865

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21976-2-1f(k)

<400> 865

agtgctgggc ctaaaggag

19

<210> 866

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21976-2-1r

<400> 866

gactccctga ctgttgatgt tg

22

<210> 867

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21977-1f(k)

<400> 867

gcctaccatt tcacagaggt tt

22

<210> 868

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21977-1r

<400> 868

tgtttttata tgctgccctt cc

22

<210> 869

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22159-1f(k)

<400> 869

tggcacatca gaaaggaatg

20

<210> 870

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22159-1r

<400> 870

aatgggagcc aaggaaagag

20

<210> 871

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22168-1f(k)

<400> 871

tactgggtcg ggtgtttgtg

20

<210> 872

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22168-1r

<400> 872

ccgatgggtgc tcttgctct

19

<210> 873

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22215-1-1f(k)

<400> 873

gccctctcct gacttgtatt g

21

<210> 874

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22215-1-1r

<400> 874

cctgaagttt gctgttttgt g

21

<210> 875

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22244-1f(k)

<400> 875

agagaatcgg aagtggatga ga

22

<210> 876

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22244-1r

<400> 876

atgcttgctg ctttgcttg

19

<210> 877

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22263-1f(k)

<400> 877

aagattggaa gacccgttg

20

<210> 878

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22263-1r

<400> 878

acagcttttg gggtgatttg

20

<210> 879

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22548-1f(k)

<400> 879

atccaacca cctcccttg

19

<210> 880

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22548-1r

<400> 880

ctgctgtccc cactcctctt

20

<210> 881

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23033-1f(k)

<400> 881

tctagtgggtg gcaggaaga

20

<210> 882

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23033-1r

<400> 882

agcatggagg aaacagacag a

21

<210> 883

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23231-1f(k)

<400> 883

aggctctccc tcagttacca

20

<210> 884

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23231-lr

<400> 884

caaaaccgtc ccgaagag

18

<210> 885

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23284-1f(k)

<400> 885

gtgatgctgt cttgaattgt cc

22

<210> 886

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23284-lr

<400> 886

cttatggacc cgccttttct

20

<210> 887

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23329-1d-1f(k)

<400> 887

gcatggacag ttgtttggag

20

<210> 888

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23329-1d-1r

<400> 888

ggaagaaccg gaggacttg

19

<210> 889

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23384-1f(k)

<400> 889

ttagccagcg cacctttac

19

<210> 890

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23384-1r

<400> 890

taccaccac atctccttcc

20

<210> 891

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23556-1f(k)

<400> 891

ggaagtcctt tccacctctc

20

<210> 892

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23556-1r

<400> 892

agtcctatgc acgactccaa

20

<210> 893

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23674r1-1f(k)

<400> 893

tggtcttctt ggccttgct

19

<210> 894

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23674r1-1r

<400> 894

ctgcacctc atcctcctct

20

<210> 895

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23879-2-1f(k)

<400> 895

cattctgttt gatcttcggt ctc

23

<210> 896

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23879-2-1r

<400> 896

agctgtagca gtggatgctt t

21

<210> 897

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24098r1-1f(k)

<400> 897

tagggcttca tgtgggaaac

20

<210> 898

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24098r1-1r

<400> 898

agccgcgaaa ctgagaac

18

<210> 899

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24329-1f(k)

<400> 899

aggtggaggc tgatgacttg

20

<210> 900

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24329-1r

<400> 900

tctctgaata gtgccccgta g

21

<210> 901

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24334-1f(k)

<400> 901

tgggtaaagg acgaggaaga

20

<210> 902

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24334-1r

<400> 902

caggccatct atcaaccaca c

21

<210> 903

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24439-1-1f(k)

<400> 903

ggcgggtgcag atccagtt

18

<210> 904

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24439-1r

<400> 904

gtcacgttgc cgtccttg

18

<210> 905

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24507-1f(k)

<400> 905

aacccgcatg gaattatctg t

21

<210> 906

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24507-1r

<400> 906

ctttggtgaa gggcatggt

19

<210> 907

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24836-1f(k)

<400> 907

cacgttgaca ggtttgcttg

20

<210> 908

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24836-1r

<400> 908

ccttgctctg ttgacattcc t

21

<210> 909

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24958-1f(k)

<400> 909

tggagcagtt ggctaaagag

20

<210> 910

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24958-1r

<400> 910

agtgatggta ctggatgtct gg

22

<210> 911

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24989-1f(k)

<400> 911

tggaaatcta tcgccctcac

20

<210> 912

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24989-1r

<400> 912

acagaactca aacaggccat c

21

<210> 913

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20393d-1f(k)

<400> 913

agtcagaaa accgacgaag

20

<210> 914

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20393d-1r

<400> 914

ggtcaggcca ttgaagagag

20

<210> 915

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20423d-1f(k)

<400> 915

tggtctatca ccccagcttc

20

<210> 916

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20423d-1r

<400> 916

gttcttcacc ttctccaaca cc

22

<210> 917

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20510-1f(k)

<400> 917

gttcactggg gctcattcca

20

<210> 918

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20510-1r

<400> 918

tgatctcctc cctcttatcc ac

22

<210> 919

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20833d-1f(k)

<400> 919

gctaatcaaa gcggcaaca

19

<210> 920

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20833d-1r

<400> 920

tccatcagtc tcttcccata cc

22

<210> 921

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20931-1f(k)

<400> 921

tagcagggaa gccaaagatg

20

<210> 922

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20931-1r

<400> 922

cagtacacag gctccagaag aag

23

<210> 923

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20943-1f(k)

<400> 923

tctaggetgc ttggttcgtg

20

<210> 924

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20943-1r

<400> 924

gatcttcctg tggggcttg

19

<210> 925

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21258r1-1f(k)

<400> 925

ttaaggcggg tctctgttc

19

<210> 926

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21258-1r

<400> 926

tggaacctc aaggaaaact c

21

<210> 927

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21268-1f(k)

<400> 927

cctagagggc agatgcaga

19

<210> 928

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21268-1r

<400> 928

gcctgagagg gaaaccac

18

<210> 929

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21273-1f(k)

<400> 929

agagccttcc tcacccaaac

20

<210> 930

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21273-1r

<400> 930

agctccttca cctcctcaca

20

<210> 931

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21412-1f(k)

<400> 931

ttgaacagga gaagcaagca

20

<210> 932

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21412-1r

<400> 932

cggccttcgt tgtcagtag

19

<210> 933

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21578-1f(k)

<400> 933

ctcctcctgt tgctgacct

20

<210> 934

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21578-1r

<400> 934

tggtgtcagt gctgttcctc

20

<210> 935

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21614-1f(k)

<400> 935

tggtatgagc caatgcaga

19

<210> 936

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21614-1r

<400> 936

ctgtaaacca tgaagatgca ga

22

<210> 937

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21624-1f(k)

<400> 937

tggaacata cgatgatgga g

21

<210> 938

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21624-1r

<400> 938

agtcttgctt ctgggggatg

20

<210> 939

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21655-1f(k)

<400> 939

tgtcattgtg ctggctgtg

19

<210> 940

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21655-1r

<400> 940

acctccacct tccctgttgt

20

<210> 941

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21670-1f(k)

<400> 941

gtctttgaac gccattaccc

20

<210> 942

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21670-1r

<400> 942

ttgttcccct atctaccac a

21

<210> 943

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21787-1f(k)

<400> 943

agccctctca ctatatgcta tcc

23

<210> 944

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21787-1r

<400> 944

gggtgtatat ttcctttgtg tcc

23

<210> 945

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21954-1f(k)

<400> 945

ccagcttcct acaacaccat ct

22

<210> 946

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21954-lr

<400> 946

tacaagccaa cgctttctcc

20

<210> 947

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21979-1f(k)

<400> 947

catgtagtgg gttcggagat g

21

<210> 948

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21979-lr

<400> 948

cgtagccatc agtgcaagag

20

<210> 949

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22043-1f(k)

<400> 949

ggcccagaac aactgctac

19

<210> 950

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22043-1r

<400> 950

aggccaccct ccttcttc

18

<210> 951

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22137r1-1f(k)

<400> 951

aggcattaag ggcacacc

18

<210> 952

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22137r1-1r

<400> 952

ctgcaagtaa ataggcccag a

21

<210> 953

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22192-1f(k)

<400> 953

cgttatggtg gtcattgttg

20

<210> 954

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22192-1r

<400> 954

tgctttcttc ctgctgttct

20

<210> 955

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22325d-1f(k)

<400> 955

ccattgtact gccgtctct

20

<210> 956

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22325d-1r

<400> 956

gtccccactt tccatcacc

19

<210> 957

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22327-1f(k)

<400> 957

tgtttgcttc ttgccatcac

20

<210> 958

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22327-1r

<400> 958

tgcctcttta tcacctacca ca

22

<210> 959

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22337-1f(k)

<400> 959

ggctgttctt accatctcct t

21

<210> 960

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22337-1r

<400> 960

agctcctgct aaattctaac ctc

23

<210> 961

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22482-1f(k)

<400> 961

gctgcgtctc atacaaacca

20

<210> 962

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22482-1r

<400> 962

catccacagc aactttcaca tc

22

<210> 963

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22763-1f(k)

<400> 963

cagcacagca actcaggaac

20

<210> 964

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22763-1r

<400> 964

tggcaaactt gaggcaga

18

<210> 965

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22788-1f(k)

<400> 965

ctggatcagg tttcccaca

19

<210> 966

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22788-1r

<400> 966

aggcagctca aatccttcac

20

<210> 967

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22839-1f(k)

<400> 967

tgtcatcacg cttcccttc

19

<210> 968

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22839-1r

<400> 968

gagccaaca tagaccacct

20

<210> 969

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22851-1f(k)

<400> 969

atgcctctgc ctcatctcac

20

<210> 970

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22851-1r

<400> 970

gctctgcctg ctgactctct

20

<210> 971

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22935-1f(k)

<400> 971

tgactaacgc tcacataact gg

22

<210> 972

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22935-1r

<400> 972

tgcttacctt cttgcttaat gg

22

<210> 973

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22937-1f(k)

<400> 973

gcagtttgag ggtgttttgg

20

<210> 974

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22937-1r

<400> 974

atttctactg gggagggagg a

21

<210> 975

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23238-1f(k)

<400> 975

gccactcctt ctcagtcttc atc

23

<210> 976

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23238-1r

<400> 976

gttccatcaa ctccaagca

20

<210> 977

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23327-1f(k)

<400> 977

gaagggtac tctatggtga gg

22

<210> 978

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23327-1r

<400> 978

aatggactgg tggaacttgg

20

<210> 979

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23360-1f(k)

<400> 979

gacgtgctca aggaagtgg

19

<210> 980

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23360-1r

<400> 980

tgatgaactc gacccagaga g

21

<210> 981

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23519-1f(k)

<400> 981

gaacaggatt tcccctagca

20

<210> 982

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23519-1r

<400> 982

ctctgaaaga cccccacatc

20

<210> 983

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23553-1f(k)

<400> 983

cagagggagg gtgttacgag

20

<210> 984

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23553-1r

<400> 984

ggcacgatat tgggatgg

18

<210> 985

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23554-1f(k)

<400> 985

gccaaagtgt atgggatgct

20

<210> 986

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23554-1r

<400> 986

ctggacctgt gtgaactgat g

21

<210> 987

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23683-lf(k)

<400> 987

tctgtgacca gggttttgtg

20

<210> 988

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23683-lr

<400> 988

cacacgagaa gtggatggtg

20

<210> 989

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23812-lf(k)

<400> 989

ctgcacacag ccacgattt

19

<210> 990

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23812-lr

<400> 990

tggcaggtta aatgtcttct cc

22

<210> 991

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23823-1f(k)

<400> 991

gccagagtc cagctttcta c

21

<210> 992

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23823-1r

<400> 992

agttgtccct tcctcgcttc

20

<210> 993

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23849-1f(k)

<400> 993

agcaacacgc aaacgagag

19

<210> 994

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23849-1r

<400> 994

gcatctcctg ccttgattag a

21

<210> 995

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23882-1f(k)

<400> 995

tgctactggg agctgatgtg

20

<210> 996

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23882-1r

<400> 996

cggatggcaa acttctctgt

20

<210> 997

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23910r1-1f(k)

<400> 997

catggaaaca acgaaggaac a

21

<210> 998

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23910r1-1r

<400> 998

gacttggggt tggaacagg

19

<210> 999

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24064-1f(k)

<400> 999

cggaggagaa acggaggt

18

<210> 1000

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24064-1r

<400> 1000

gctattgacc cgtgggaag

19

<210> 1001

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24405-1f(k)

<400> 1001

agccagtaca cgcaggaaac

20

<210> 1002

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24405-1r

<400> 1002

catcaaacca cctccacaag a

21

<210> 1003

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24897-1f(k)

<400> 1003

aggagtttgc tgctgctctc

20

<210> 1004

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24897-1r

<400> 1004

tcagtcctg cttccctatc

20

<210> 1005

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24913-1f(k)

<400> 1005

atcagtggt ggaagatgga

20

<210> 1006

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24913-1r

<400> 1006

cggattagct gttcgaggtg

20

<210> 1007

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20624d-1f(k)

<400> 1007

ttctggtgcg agttttgga

19

<210> 1008

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20624d-1r

<400> 1008

tctgaatggg caagaaggag

20

<210> 1009

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22029-1f(k)

<400> 1009

cagggacagg aaagatagga g

21

<210> 1010

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22029-lr

<400> 1010

gctgaactct ggatgtctgg

20

<210> 1011

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22424rld-1f(k)

<400> 1011

tgcaccagct ctttcttctg t

21

<210> 1012

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22424rls-lr

<400> 1012

catgacctc tcctgcatct c

21

<210> 1013

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22594-1f(k)

<400> 1013

cacgatattc agaccttgac ttg

24

<210> 1014

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22594-lr

<400> 1014

agcatccttt gcctctgtgt

20

<210> 1015

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22622-1f(k)

<400> 1015

gcaaggggt cttcttcct

19

<210> 1016

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22622-lr

<400> 1016

ggctggcaag ttcattcct

19

<210> 1017

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20117d-1f(k)

<400> 1017

tggaccttgt ggttgagttg

20

<210> 1018

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20117-1r

<400> 1018

ctcttttgga ttgctgcttg

20

<210> 1019

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20238-1f(k)

<400> 1019

cgtggggatg tagcagga

18

<210> 1020

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20238-1r

<400> 1020

ctggaaagat ggggaaggag

20

<210> 1021

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20904-1f(k)

<400> 1021

acgtggattt atggtctgtg g

21

<210> 1022

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20904-1r

<400> 1022

tgggaaaagg acatcaggaa

20

<210> 1023

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23293-1f(k)

<400> 1023

tgatgctggg caactacaga

20

<210> 1024

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23293-1r

<400> 1024

tccaaaacta gccaggagga

20

<210> 1025

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23297d-1f(k)

<400> 1025

acaagaaagc agtggagagg ag

22

<210> 1026

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23297d-1r

<400> 1026

gttttgctgt tggtcacttg g

21

<210> 1027

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23311-1f(k)

<400> 1027

tctccgttgg tctcactgtc t

21

<210> 1028

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23311-1r

<400> 1028

ggccacaatt tccatatacct c

21

<210> 1029

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23589-1f(k)

<400> 1029

gaagcatgag cccgtattta tc

22

<210> 1030

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23589-1r

<400> 1030

tccacaactt cataatccca ca

22

<210> 1031

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23629r1-1f(k)

<400> 1031

gtggtcgac ctccattct

19

<210> 1032

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23629r1-1r

<400> 1032

acatgcggtg gatttttgg

19

<210> 1033

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23862d-ldf(k)

<400> 1033

gctcctgtga tctggatgga

20

<210> 1034

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23862d-ldr

<400> 1034

ccaagtggga caaggtgaag

20

<210> 1035

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24133r1-1f(k)

<400> 1035

ccataagcca cccacttac

20

<210> 1036

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24133r1-1r

<400> 1036

gagccttggg tcatttgct

19

<210> 1037

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24761-1f(k)

<400> 1037

atggagccac gaacaacc

18

<210> 1038

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24761-1r

<400> 1038

ggtctgggaa gtgtagttga aga

23

<210> 1039

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20279-1f(k)

<400> 1039

cctatggaca cccaatcc

19

<210> 1040

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20279-1r

<400> 1040

ggcctgcttt agctccttc

19

<210> 1041

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20687-1f(k)

<400> 1041

ggcagacctc cagaccaac

19

<210> 1042

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20687-1r

<400> 1042

tgccacttcc actacccaga

20

<210> 1043

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20924d-1f(k)

<400> 1043

gcagcctcag ctcatacca

19

<210> 1044

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla20924d-1r

<400> 1044

tccaaatctt ccaccaaacc

20

<210> 1045

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21168-1f(k)

<400> 1045

caactccgtc agctcggt

18

<210> 1046

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21168-1r

<400> 1046

ccagagcctt ttcattcttg

20

<210> 1047

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21303-1f(k)

<400> 1047

gttggtacc agaggaaatg

20

<210> 1048

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21303-1r

<400> 1048

tccacttaga aacggaagga

20

<210> 1049

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21483-1f(k)

<400> 1049

cacagcagaa aggaaaatgg a

21

<210> 1050

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21483-1r

<400> 1050

tgataagcag cactggatgg

20

<210> 1051

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21838-1f(k)

<400> 1051

ctagaatagg gaggtggaga atg

23

<210> 1052

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21838-1r

<400> 1052

ctgcgggttg gtaattgag

19

<210> 1053

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21917-1f(k)

<400> 1053

tgagttctgg attgcctgtg

20

<210> 1054

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla21917-1r

<400> 1054

caggcatg attcttttct

20

<210> 1055

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22099-1f(k)

<400> 1055

ctggttcca cgcaagtaag

20

<210> 1056

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22099-1r

<400> 1056

ggttcatggc tctggaatgt

20

<210> 1057

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22438-1f(k)

<400> 1057

agcaggcatg gcaatttttag

20

<210> 1058

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla22438-1r

<400> 1058

ccagaggtgc agagaagtgt g

21

<210> 1059

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23111d-1f(k)

<400> 1059

attcaccctc ttgagagaac a

21

<210> 1060

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23111d-lr

<400> 1060

ctaaaaggcg acagcacaag

20

<210> 1061

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23208-lf(k)

<400> 1061

tggctctcctt cctgtgttcc

20

<210> 1062

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23208-lr

<400> 1062

gttgccctgca ttctccaca

19

<210> 1063

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24118-lf(k)

<400> 1063

acaagtccac accacagcac

20

<210> 1064

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24118-1r

<400> 1064

gagaaaccag aggccagaga

20

<210> 1065

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24279-1f(k)

<400> 1065

tggtcgggtc acaaattcttc

20

<210> 1066

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24279-1r

<400> 1066

aaccacactc ctgcctcca

19

<210> 1067

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24771d-1f(k)

<400> 1067

caagtttgcc tccttcata g aca

23

<210> 1068

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24771d-1r

<400> 1068

tgtacgctta ttgatctcat cctc

24

<210> 1069

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24871-1f(k)

<400> 1069

cagcaggga caaaactcca

20

<210> 1070

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24871-1r

<400> 1070

tggtacatg aaacgcatac c

21

<210> 1071

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24443r1-1f(k)

<400> 1071

gctgccactg ctatgctct

19

<210> 1072

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla24443r1-1r

<400> 1072

catgctgttc tgcttgtgg

19

<210> 1073

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23300-1f

<400> 1073

gagagcagcg attaaccaaa ag

22

<210> 1074

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23300-1r

<400> 1074

acatcaac ttccctccaa

20

<210> 1075

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23664-1f

<400> 1075

ctttcatttc tcctgctgtc c

20

<210> 1076

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: nbla23664-1r

<400> 1076

gggactcacc cattttctat tt

22

<210> 1077

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: GAPD forward

<400> 1077

acctgacctg ccgtctagaa

20

<210> 1078

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: GAPD reverse

<400> 1078

tccaccaccc tggtgctgta

20

<210> 1079

<211> 27

<212> RNA

<213> Artificial Sequence

<220>

<223> Synthetic oligo-RNA

<400> 1079

agcaucgagu cggccuuggc cuacugg

27

<210> 1080

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic primer: oligo-dT adapter

<400> 1080

gcggctgaag acggcctatg tggccttttt tttttttttt tt

42

<210> 1081

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: forward

<400> 1081

agcatcgagt cggccttggt g

21

<210> 1082

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Primer: reverse

<400> 1082

gcgctgaaga cggcctatgt

20

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/13932

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ C12N15/09, C12Q1/68, G01N33/50

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ C12N15/09, C12Q1/68, G01N33/50

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

GenBank/EMBL/DDBJ/Geneseq, WPI (DIALOG), BIOSIS (DIALOG), JSTPlus (JOIS), MEDLINE (STN)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	Eggert, A. et al., High-level expression of angiogenic factors is associated with advanced tumor stage in human neuroblastomas., Clin Cancer Res., Vol.6, No.5, pages 1900 to 1908, (2000)	1-13
A	Gallego, S. et al., Differential polymerase chain reaction with serial dilutions for quantification of MYCN gene amplification in neuroblastoma., Anticancer Res., Vol.18, No.2A, pages 1211 to 1215, (1998)	1-13

☒ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document but published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 26 November, 2003 (26.11.03)	Date of mailing of the international search report 17 February, 2004 (17.02.04)
---	--

Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/13932

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	Shuichi YAMANE, "Shinkei Gashugun Shuyo ni okeru Saibo Shogaisei T Saibo ni yori Ninshiki sareru Shuyo Taishuku Kogen no Idenshi Hatsugen", (Gene expression of tumor rejection antigens recognized by cytolytic T lymphocytes in neuroblastoma-related tumors), Journal of Kyoto Prefectural University of Medicine, Vol.108, No.3, pages 381 to 388, (1999), particularly, table 3	1-13
A	The Sanger Center, et al., Toward a Complete Human Genome Sequence., Genome Res., Vol.8, No.11, pages 1097 to 1108 (1998), particularly, GenBank database Accession No.AC093879	1-6,8,9

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/13932

Box I Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 3 of first sheet)This International Searching Authority found multiple inventions in this international application, as follows:
(See extra sheet.)

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
The parts relating to SEQ ID NOS:1, 175 and 176 in claims.

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/13932

Continuation of Box No. II of continuation of first sheet(1)

The nucleic acids represented by SEQ ID NOS:1 to 174 and the primers represented by SEQ ID NOS:175 to 1076 as set forth in claims are common to each other exclusively in being usable in diagnosing and judging neuroblastoma at stage 4s.

However, specific genes having an expression pattern specific to neuroblastoma at stage 4s are reported by the following documents 1 to 3. Accordingly, diagnosis/judgment of neuroblastoma at stage 4s by using a specific gene having an expression pattern specific to neuroblastoma at stage 4s cannot be considered as a special technical feature in the meaning within PCT Rule 13.2.

According to PCT Rule 13.3, unity of inventions shall be determined without regard to whether the inventions are claimed in separate claims or as alternatives within a single claim.

Therefore, the inventions relating to the nucleic acids represented by SEQ ID NOS:1 to 174 and the primers represented by SEQ ID NOS:175 to 1076 are not considered as a group of inventions so linked as to form a single general inventive concept. Concerning the relationships among the nucleic acids represented by SEQ ID NOS:1 to 174 and primer pairs corresponding thereto (i.e., SEQ ID NOS:175 to 518 and SEQ ID NOS:1073 to 1076), unity of inventions is fulfilled for each nucleic acid (i.e., 174 groups of inventions) but the inventions relating to other primers represented by SEQ ID NOS:519 to 1072 are 554 independent groups of inventions. That is, it is recognized that claims of the present case have 728 groups of inventions in total.

- Document 1: Eggert, A. et al., High-level expression of angiogenic factors is associated with advanced tumor stage in human neuroblastomaomas.
Clin Cancer Res, Vol.6, No.5, pp. 1900-1908 (2000)
- Document 2: Gallego, S. et al., Differential polymerase chain reaction with serial dilutions for quantification of MYCN gene amplification in neuroblastomaoma.
Anticancer Res, Vol.18, No.2A, pp. 1211-1215 (1998)
- Document 3: (Journal of Kotyo Prefectural University of Medicine),
Vol.108, No.3, pp. 381-388 (1999)

A. 発明の属する分野の分類 (国際特許分類 (IPC))

Int. Cl¹ C12N15/09, C12Q1/68, G01N33/50

B. 調査を行った分野

調査を行った最小限資料 (国際特許分類 (IPC))

Int. Cl¹ C12N15/09, C12Q1/68, G01N33/50

最小限資料以外の資料で調査を行った分野に含まれるもの

国際調査で使用した電子データベース (データベースの名称、調査に使用した用語)

GenBank/EMBL/DBJ/Geneseq,
WPI(DIALOG)、BIOSIS(DIALOG)、JSTPlus(JOIS)、MEDLINE(STN)

C. 関連すると認められる文献

引用文献の カテゴリー*	引用文献名 及び一部の箇所が関連するときは、その関連する箇所の表示	関連する 請求の範囲の番号
A	Eggert, A. et al., High-level expression of angiogenic factors is associated with advanced tumor stage in human neuroblastomas. Clin Cancer Res, Vol. 6, No. 5, pp. 1900-1908 (2000)	1-13
A	Gallego, S. et al., Differential polymerase chain reaction with serial dilutions for quantification of MYCN gene amplification in neuroblastoma. Anticancer Res, Vol. 18, No. 2A, pp. 1211-1215 (1998)	1-13

☒ C欄の続きにも文献が列挙されている。☐ パテントファミリーに関する別紙を参照。

* 引用文献のカテゴリー

「A」 特に関連のある文献ではなく、一般的技術水準を示すもの

「E」 国際出願日前の出願または特許であるが、国際出願日以後に公表されたもの

「L」 優先権主張に疑義を提起する文献又は他の文献の発行日若しくは他の特別な理由を確立するために引用する文献 (理由を付す)

「O」 口頭による開示、使用、展示等に言及する文献

「P」 国際出願日前で、かつ優先権の主張の基礎となる出願

の日の後に公表された文献

「T」 国際出願日又は優先日後に公表された文献であって出願と矛盾するものではなく、発明の原理又は理論の理解のために引用するもの

「X」 特に関連のある文献であって、当該文献のみで発明の新規性又は進歩性がないと考えられるもの

「Y」 特に関連のある文献であって、当該文献と他の1以上の文献との、当業者にとって自明である組合せによって進歩性がないと考えられるもの

「&」 同一パテントファミリー文献

国際調査を完了した日

26. 11. 2003

国際調査報告の発送日

17. 2. 2004

国際調査機関の名称及びあて先

日本国特許庁 (ISA/JP)

郵便番号 100-8915

東京都千代田区霞が関三丁目4番3号

特許庁審査官 (権限のある職員)

田村 明 照

4B

8412

電話番号 03-3581-1101 内線 3448

C (続き) . 関連すると認められる文献		
引用文献の カテゴリー*	引用文献名 及び一部の箇所が関連するときは、その関連する箇所の表示	関連する 請求の範囲の番号
A	山根秀一著、 神経芽腫群腫瘍における細胞障害性T細胞により認識される腫瘍退縮抗原の遺伝子発現 (Gene expression of tumor rejection antigens recognized by cytolytic T lymphocytes in neuroblastoma-related tumors) 京府医大誌, Vol. 108, No. 3, pp. 381-388 (1999)、特にTable 3	1-13
A	The Sanger Centre, et al., Toward a Complete Human Genome Sequence. Genome Res., Vol. 8, No. 11, pp. 1097-1108 (1998), 特にGenBank database Accession No. AC093879	1-6, 8, 9

第 I 欄 請求の範囲の一部の調査ができないときの意見 (第 1 ページの 2 の続き)

法第 8 条第 3 項 (PCT 17 条(2)(a)) の規定により、この国際調査報告は次の理由により請求の範囲の一部について作成しなかった。

1. ☐ 請求の範囲 _____ は、この国際調査機関が調査をすることを要しない対象に係るものである。つまり、
2. ☐ 請求の範囲 _____ は、有意義な国際調査をすることができる程度まで所定の要件を満たしていない国際出願の部分に係るものである。つまり、
3. ☐ 請求の範囲 _____ は、従属請求の範囲であって PCT 規則 6.4(a) の第 2 文及び第 3 文の規定に従って記載されていない。

第 II 欄 発明の単一性が欠如しているときの意見 (第 1 ページの 3 の続き)

次に述べるようにこの国際出願に二以上の発明があるとこの国際調査機関は認めた。

(特別ページ参照)

1. ☐ 出願人が必要な追加調査手数料をすべて期間内に納付したので、この国際調査報告は、すべての調査可能な請求の範囲について作成した。
2. ☐ 追加調査手数料を要求するまでもなく、すべての調査可能な請求の範囲について調査することができたので、追加調査手数料の納付を求めなかった。
3. ☐ 出願人が必要な追加調査手数料を一部のみしか期間内に納付しなかったので、この国際調査報告は、手数料の納付のあった次の請求の範囲のみについて作成した。
4. ☒ 出願人が必要な追加調査手数料を期間内に納付しなかったので、この国際調査報告は、請求の範囲の最初に記載されている発明に係る次の請求の範囲について作成した。

請求の範囲のうち配列番号 1, 175, 176 に関する部分

追加調査手数料の異議の申立てに関する注意

- ☐ 追加調査手数料の納付と共に出願人から異議申立てがあった。
☐ 追加調査手数料の納付と共に出願人から異議申立てがなかった。

(第II欄)

請求の範囲に記載された配列番号1-174に記載された核酸及び配列番号175乃至1076に記載されたプライマーは、4s期神経芽細胞腫の診断・判定に用いることができることにおいてのみ共通する。

しかしながら、下記文献1-3には、4s期の神経芽細胞腫において特異的な発現パターンを有する特定の遺伝子が記載されている。したがって、4s期の神経芽細胞腫において特異的な発現パターンを有する特定の遺伝子を用いて、4s期神経芽細胞腫の診断・判定を行うことは、PCT規則13.2における特別な技術的特徴であるとはいえない。

ここで、PCT規則13.3によると、発明の単一性の判断はこれらの発明が別個の請求の範囲に記載されているか単一の請求の範囲に択一的な形式によって記載されているかを考慮することなく行われるべきものである。

よって、請求の範囲に記載された発明のうち配列番号1-174に記載された核酸及び配列番号175乃至1076に記載されたプライマーに関する発明は、単一の一般的発明概念を形成するように連関している一群の発明であるとはいえない。そして、配列番号1-174に記載された核酸とそれに対応する一対のプライマー、すなわち配列番号175乃至518、1073乃至1076との関係においてはそれぞれの核酸ごと(174個の発明群)に単一性を満たすものの、配列番号519乃至1072に記載されたその他のプライマーに関する発明は個々に独立した554個の発明群であり、請求の範囲には併せて728個の発明群が記載されているものと認める。

文献1 : Eggert, A. et al., High-level expression of angiogenic factors is associated with advanced tumor stage in human neuroblastomas. Clin Cancer Res, Vol. 6, No. 5, pp. 1900-1908 (2000)

文献2 : Gallego, S. et al., Differential polymerase chain reaction with serial dilutions for quantification of MYCN gene amplification in neuroblastoma. Anticancer Res, Vol. 18, No. 2A, pp. 1211-1215 (1998)

文献3 : 京府医大誌, Vol. 108, No. 3, pp. 381-388 (1999)